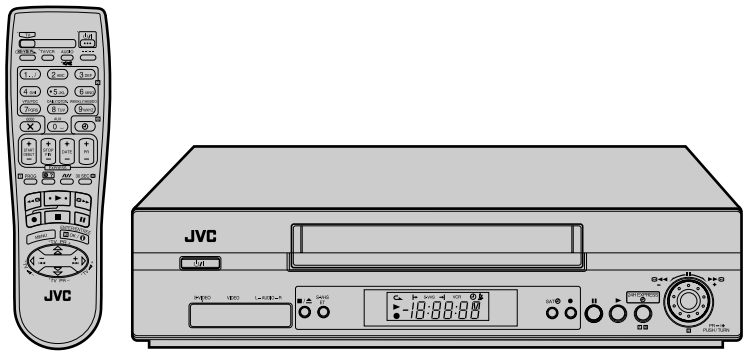
JVC

SERVICE MANUAL

VIDEO CASSETTE RECORDER

HR-S6953EU



Hi-Fi S-VHS 625

Super VHS ET

SHOWVIEW® DELUXE

Regarding service information other than these sections, refer to the HR-S6950EU service manual (No.82923). Also, be sure to note important safety precautions provided in the service manual.

SPECIFICATIONS

GENERAL

Power requirement : AC 220 V – 240 V~, 50 Hz/60 Hz
Power consumption
  Power on : 18 W
  Power off : 3.6 W
Temperature
  Operating : 5°C to 40°C
  Storage : –20°C to 60°C
Operating position : Horizontal only
Dimensions (WxHxD)
  : 400 mm x 94 mm x 270 mm
Weight : 3.2 kg
Format : S-VHS/VHS PAL standard
Maximum recording time
  (SP) : 240 min. with E-240 video cassette
  (LP) : 480 min. with E-240 video cassette
  (EP) : 720 min. with E-240 video cassette

VIDEO/AUDIO

Signal system : PAL-type colour signal and CCIR monochrome signal, 625 lines 50 fields
Recording system : DA4 (Double Azimuth) head helical scan system
Signal-to-noise ratio: 45 dB
Horizontal resolution
  (SP/LP) : 250 lines (VHS)
    400 lines (S-VHS)
  (EP) : 220 lines (VHS)
    350 lines (S-VHS)
Frequency range : 70 Hz to 10,000 Hz (Normal audio)
  20 Hz to 20,000 Hz (Hi-Fi audio)
Input/Output : 21-pin SCART connectors:
  IN/OUT x 1, IN/DECODER x 1
  RCA connectors:
  VIDEO IN x 1, AUDIO IN x 1,
  AUDIO OUT x 1
  S-Video connector:
  IN x 1

TUNER/TIMER

TV channel storage capacity
  : 99 positions (+AUX position)
Tuning system : Frequency synthesized tuner
Channel coverage : VHF 47 MHz – 89 MHz/
  104 MHz – 300 MHz/
  302 MHz – 470 MHz
  UHF 470 MHz – 862 MHz
Aerial output : UHF channels 22 – 69 (Adjustable)
Memory backup time
  : Approx. 10 min.

ACCESSORIES

Provided accessories
  : RF cable,
  Infrared remote control unit,
  "R6" battery x 2

Specifications shown are for SP mode unless otherwise specified.
E.& O.E. Design and specifications subject to change without notice.

HR-S6953EU V15S1

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No.82925
June 2002

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The following table indicate main different points between models HR-S6950EU and HR-S6953EU.

ITEM \ MODEL	HR-S6950EU	HR-S6953EU
BODY COLOR	PURE SILVER	BLACK
DISPLAY WINDOW COLOR	METALLIC GRAY	BLACK
REMOTE CONTROLLER COLOR	LIGHT GRAY	BLACK

The following table indicate different parts number between models HR-S6950EU and HR-S6953EU.

PACKING AND ACCESSORY ASSEMBLY<M1>

PACKING AND ACCESSORY ASSEMBLY<M1> is indicated on the parts list.

FINAL ASSEMBLY<M2>

⚠ REF NO.	ITEM \ MODEL	HR-S6950EU	HR-S6953EU
⚠501	FRONT PANEL ASSY	LP10427-014F	LP10427-015F
501A	CASSETTE DOOR	LP20961-007C	LP20961-011C
⚠502	TOP COVER	LP10013-051B	LP10013-061B
503	SCREW,X4,TOPCOVER(SIDE)	QYTDSF3010R	QYTDSF3010M
529	KNOB ASSY	LP31019-005D	LP31019-004D
534	CAP(JACK)	LP30871-003B	LP30871-005B

Note: Mark ◄— is same as left.

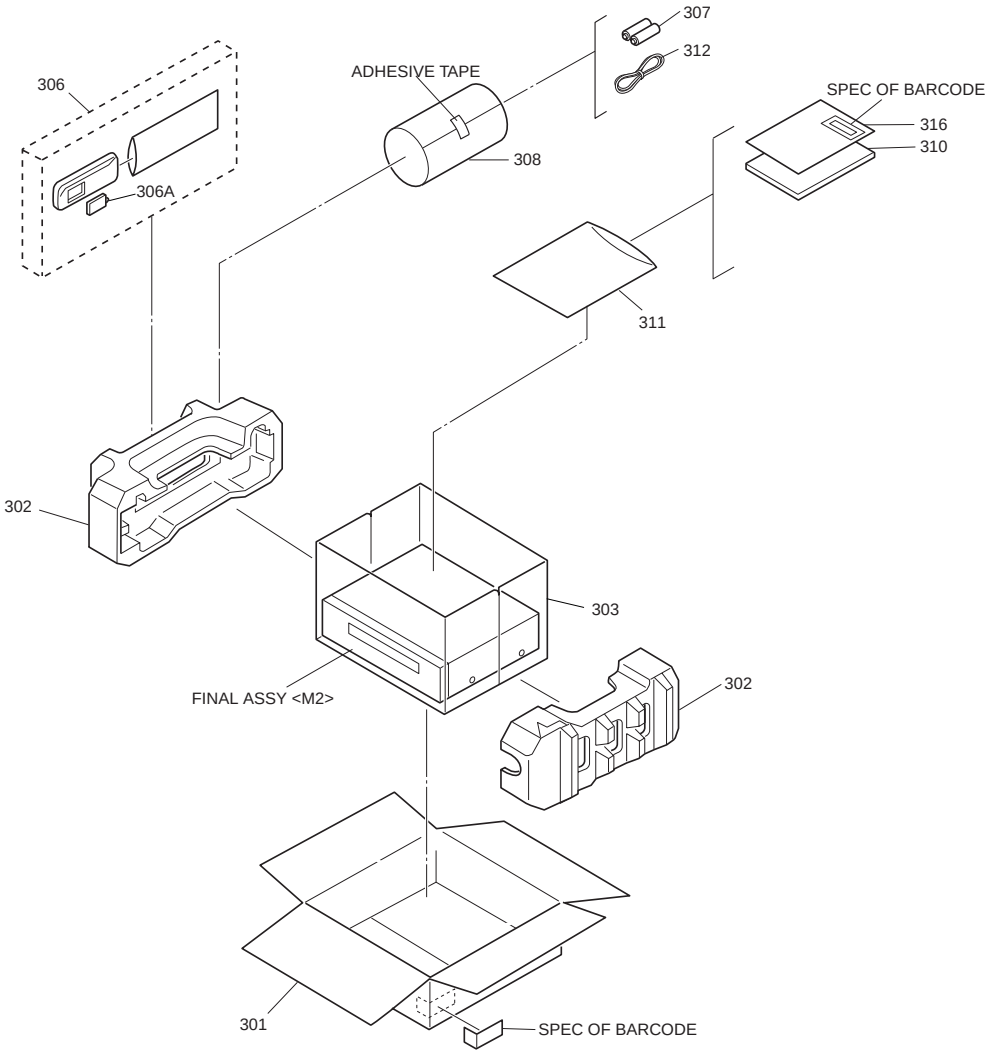
SECTION 5
PARTS LIST

SAFETY PRECAUTION

Parts identified by the ⚠ symbol are critical for safety. Replace only with specified part numbers.

5.1 PACKING AND ACCESSORY ASSEMBLY <M1>

The instruction manual to be provided with this product will differ according to the destination.



#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION

****

PACKING AND ACCESSORY ASSEMBLY <M1>

	301	LP30855-004A	PACKING CASE
	302	LP30909-001C	CUSHION ASSY
	303	PQM30021-93	POLY BAG
	306	LP20878-017A	REMOTE CONTROLLER
	306A	LP40610-001A	COVER(BATTERY)
	307	——	BATTERY,X2,("R6"TYPE)
	308	QPC02202230P	POLY BAG
⚠	310	LPT0650-001B	INST.BOOK(EN)
⚠		LPT0650-002B	INST.BOOK(GE)
⚠		LPT0650-003A	INST.BOOK(FR)
⚠		LPT0650-004A	INST.BOOK(DU)
⚠		LPT0650-005A	INST.BOOK(SP)

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION

****

⚠		LPT0650-006A	INST.BOOK(IT)
⚠		LPT0650-007A	INST.BOOK(DA)
⚠		LPT0650-008A	INST.BOOK(FI)
⚠		LPT0650-009A	INST.BOOK(SW)
⚠		LPT0650-010A	INST.BOOK(NO)
⚠		LPT0650-011A	INST.BOOK(PT)
⚠		LPT0650-012A	INST.BOOK(GR)
⚠		LPT0650-013A	INST.BOOK(CZ)
⚠		LPT0650-014A	INST.BOOK(PO)
⚠		LPT0650-015A	INST.BOOK(HU)
	311	QPC02503530P	POLY BAG
	312	PEAC0300-02	RF CABLE
	316	BT-54013-2	WARRANTY CARD

[redacted]

JVC

VICTOR COMPANY OF JAPAN, LIMITED
VIDEO DIVISION

S40894

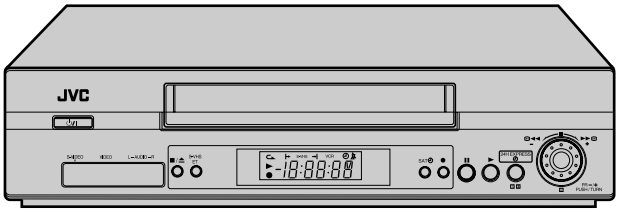
Printed in Japan

JVC

SERVICE MANUAL

VIDEO CASSETTE RECORDER

HR-S6950EU, HR-S6955MS, HR-S7950EU, HR-S7955EK, HR-S7955MS



SHOWVIEW® DELUXE

Hi-Fi S-VHS 625

Super VHS ET

SPECIFICATIONS *(The specifications shown pertain specifically to the model HR-S7950EU.)*

GENERAL

Power requirement : AC 220 V – 240 V~, 50 Hz/60 Hz
Power consumption
  Power on : 18 W
  Power off : 3.6 W
Temperature
  Operating : 5°C to 40°C
  Storage : –20°C to 60°C
Operating position : Horizontal only
Dimensions (WxHxD)
  : 400 mm x 94 mm x 270 mm
Weight : 3.4 kg
Format : S-VHS/VHS PAL standard
Maximum recording time
  (SP) : 240 min. with E-240 video cassette
  (LP) : 480 min. with E-240 video cassette
  (EP) : 720 min. with E-240 video cassette

VIDEO/AUDIO

Signal system : PAL-type colour signal and CCIR monochrome signal, 625 lines 50 fields
Recording system : DA4 (Double Azimuth) head helical scan system
Signal-to-noise ratio: 45 dB
Horizontal resolution
  (SP/LP) : 250 lines (VHS)
    400 lines (S-VHS)
  (EP) : 220 lines (VHS)
    350 lines (S-VHS)
Frequency range : 70 Hz to 10,000 Hz (Normal audio)
    20 Hz to 20,000 Hz (Hi-Fi audio)
Input/Output : 21-pin SCART connectors:
    IN/OUT x 1, IN/DECODER x 1
    RCA connectors:
    VIDEO IN x 1, AUDIO IN x 1,
    AUDIO OUT x 1
    S-Video connector:
    IN x 1, OUT x 1

TUNER/TIMER

TV channel storage capacity
  : 99 positions (+AUX position)
Tuning system : Frequency synthesized tuner
Channel coverage : VHF 47 MHz – 89 MHz/
    104 MHz – 300 MHz/
    302 MHz – 470 MHz
    UHF 470 MHz – 862 MHz
Aerial output : UHF channels 22 – 69 (Adjustable)
Memory backup time
  : Approx. 10 min.

ACCESSORIES

Provided accessories
  : RF cable,
    Infrared remote control unit,
    "R6" battery x 2

Specifications shown are for SP mode unless otherwise specified.
E.& O.E. Design and specifications subject to change without notice.

V15S1/S2/S15

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The following table lists the differing points between models HR-S6950EU, HR-S6955MS, HR-S7950EU, HR-S7955EK and HR-S7955MS.

MODEL / ITEM	HR-S6950EU	HR-S6955MS	HR-S7950EU	HR-S7955EK	HR-S7955MS
POWER PLUG	CEE	←	←	3PIN	CEE
DIGITAL SLOW	NOT USED	←	USED	←	NOT USED
RETAKE	NOT USED	←	←	←	USED
ZERO FRAME EDIT	NOT USED	←	←	←	USED
INSERT / AUDIO DUBBING	NOT USED	←	←	←	USED
MESECAM	USED(MANUAL)	USED(PB ONLY)	USED(MANUAL)	NOT USED	USED(PB ONLY)
SECAM	NOT USED	USED	NOT USED	←	USED
TBC	NOT USED	←	USED	←	NOT USED
REAR S OUT(4-pin)	NOT USED	←	USED	←	←
REMOTE PAUSE TERMINAL	NOT USED	←	USED	←	←
BROADCASTING STANDARD	B/G, D/K	L, B/G	B/G, D/K	I	L, B/G
RF OUT	USED	NOT USED	USED	←	NOT USED
VPS	USED	NOT USED	USED	NOT USED	←
OSD LANGUAGE	13 LANGUAGES	FRENCH	13 LANGUAGES	ENGLISH	FRENCH
x1.5 PLAYBACK with AUDIO	NOT USED	←	USED	←	NOT USED

Notes: Mark ← is same as left.

Important Safety Precautions

Prior to shipment from the factory, JVC products are strictly inspected to conform with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

●Precautions during Servicing

1. Locations requiring special caution are denoted by labels and inscriptions on the cabinet, chassis and certain parts of the product. When performing service, be sure to read and comply with these and other cautionary notices appearing in the operation and service manuals.

2. Parts identified by the ⚠ symbol and shaded ( ) parts are critical for safety.
   Replace only with specified part numbers.
   Note: Parts in this category also include those specified to comply with X-ray emission standards for products using cathode ray tubes and those specified for compliance with various regulations regarding spurious radiation emission.

3. Fuse replacement caution notice.
   Caution for continued protection against fire hazard.
   Replace only with same type and rated fuse(s) as specified.

4. Use specified internal wiring. Note especially:
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads

5. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulation Tape 3) Spacers 5) Barrier
   2) PVC tubing 4) Insulation sheets for transistors

6. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.) wrap ends of wires securely about the terminals before soldering.

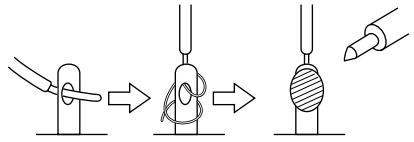


Fig.1

7. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)

8. Check that replaced wires do not contact sharp edged or pointed parts.

9. When a power cord has been replaced, check that 10-15 kg of force in any direction will not loosen it.

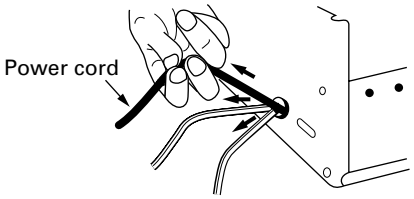


Fig.2

10. Also check areas surrounding repaired locations.

11. Products using cathode ray tubes (CRTs)
    In regard to such products, the cathode ray tubes themselves, the high voltage circuits, and related circuits are specified for compliance with recognized codes pertaining to X-ray emission. Consequently, when servicing these products, replace the cathode ray tubes and other parts with only the specified parts. Under no circumstances attempt to modify these circuits. Unauthorized modification can increase the high voltage value and cause X-ray emission from the cathode ray tube.

12. Crimp type wire connector
    In such cases as when replacing the power transformer in sets where the connections between the power cord and power transformer primary lead wires are performed using crimp type connectors, if replacing the connectors is unavoidable, in order to prevent safety hazards, perform carefully and precisely according to the following steps.

    1) **Connector part number :** E03830-001
    2) **Required tool :** Connector crimping tool of the proper type which will not damage insulated parts.
    3) **Replacement procedure**
       (1) Remove the old connector by cutting the wires at a point close to the connector.
       Important : Do not reuse a connector (discard it).

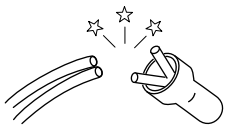


Fig.3

(2) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.

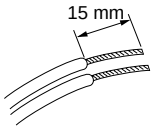


Fig.4

(3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.

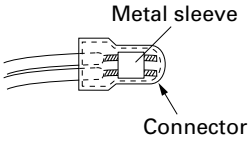


Fig.5

(4) As shown in Fig.6, use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.

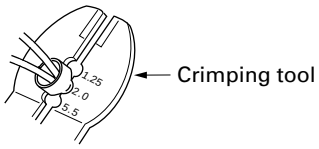


Fig.6

(5) Check the four points noted in Fig.7.

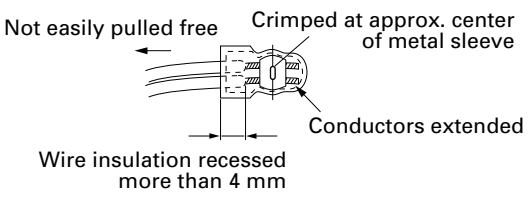

Not easily pulled free
Crimped at approx. center of metal sleeve
Conductors extended
Wire insulation recessed more than 4 mm

Fig.7

● Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions, Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

1. Insulation resistance test

Confirm the specified insulation resistance or greater between power cord plug prongs and externally exposed parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

2. Dielectric strength test

Confirm specified dielectric strength or greater between power cord plug prongs and exposed accessible parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

3. Clearance distance

When replacing primary circuit components, confirm specified clearance distance (d), (d') between soldered terminals, and between terminals and surrounding metallic parts. See table 1 below.

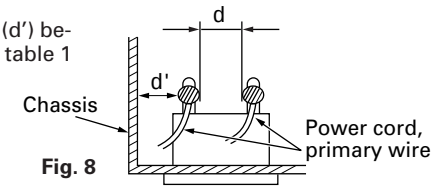


Fig. 8

4. Leakage current test

Confirm specified or lower leakage current between earth ground/power cord plug prongs and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).

Measuring Method : (Power ON)

Insert load Z between earth ground/power cord plug prongs and externally exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See figure 9 and following table 2.

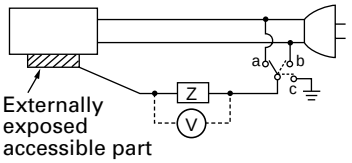


Fig. 9

5. Grounding (Class Ⅰ model only)

Confirm specified or lower grounding impedance between earth pin in AC inlet and externally exposed accessible parts (Video in, Video out, Audio in, Audio out or Fixing screw etc.).

Measuring Method:

Connect milli ohm meter between earth pin in AC inlet and exposed accessible parts. See figure 10 and grounding specifications.

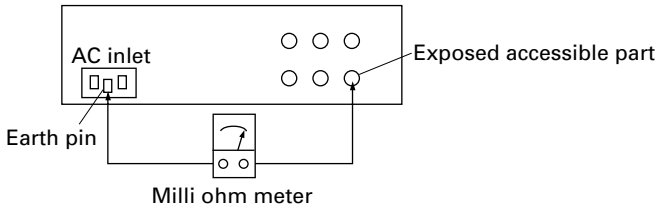


Fig. 10

Grounding Specifications

Region	Grounding Impedance (Z)
USA & Canada	Z ≦ 0.1 ohm
Europe & Australia	Z ≦ 0.5 ohm

AC Line Voltage	Region	Insulation Resistance (R)	Dielectric Strength	Clearance Distance (d), (d')
100 V	Japan	R ≧ 1 MΩ/500 V DC	AC 1 kV 1 minute	d, d' ≧ 3 mm
100 to 240 V			AC 1.5 kV 1 miute	d, d' ≧ 4 mm
110 to 130 V	USA & Canada	1 MΩ ≦ R ≦ 12 MΩ/500 V DC	AC 1 kV 1 minute	d, d' ≧ 3.2 mm
110 to 130 V 200 to 240 V	Europe & Australia	R ≧ 10 MΩ/500 V DC	AC 3 kV 1 minute (Class Ⅱ) AC 1.5 kV 1 minute (Class Ⅰ)	d ≧ 4 mm d' ≧ 8 mm (Power cord) d' ≧ 6 mm (Primary wire)

Table 1 Specifications for each region

AC Line Voltage	Region	Load Z	Leakage Current (i)	a, b, c
100 V	Japan	1 kΩ	i ≦ 1 mA rms	Exposed accessible parts
110 to 130 V	USA & Canada	0.15 μF, 1.5 kΩ	i ≦ 0.5 mA rms	Exposed accessible parts
110 to 130 V 220 to 240 V	Europe & Australia	2 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Antenna earth terminals
		50 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Other terminals

Table 2 Leakage current specifications for each region

Note: These tables are unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

SECTION 1
DISASSEMBLY

1.1 Manually removing the cassette tape

If you cannot remove the cassette tape which is loaded because of any electrical or mechanical failures, manually remove it by taking the following steps.

(1) Unplug the power cord plug from the power outlet.
(2) Refer to the disassembly procedure of the VCR and perform the disassembly of the major parts before removing the mechanism assembly. (See Fig. 1-1a)

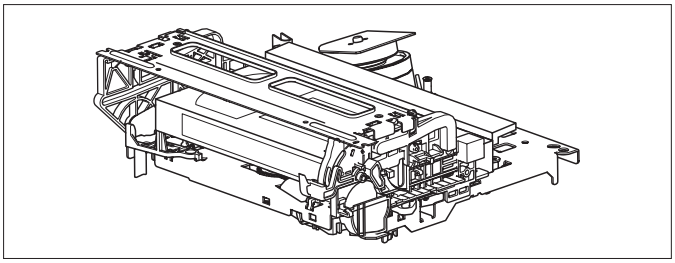


Fig. 1-1a

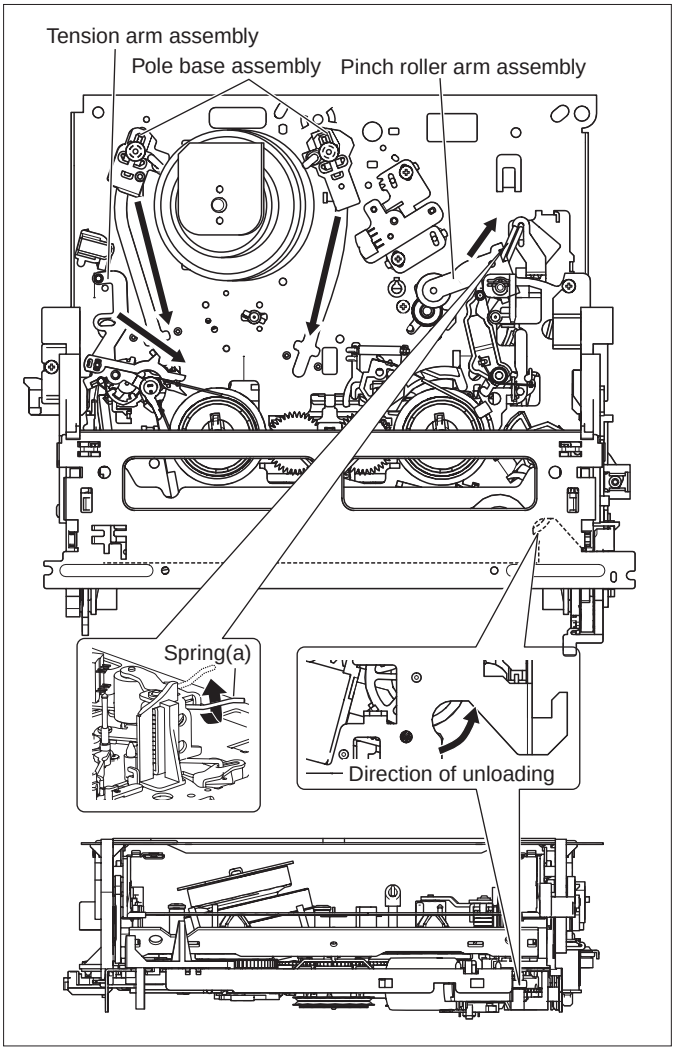


Fig. 1-1b

(3) Unload the pole base assembly by manually turning the gear of the loading motor until the pole base assembly is hidden behind the cassette lid. In doing so, hold the tape by the hand to keep the slack away from any grease. (See Fig. 1-1b.)
In case of mechanical failures, while keeping the tension arm assembly free from tension, pull out the tape on the pole base assembly. Take the spring(a) of the pinch roller arm assembly off the hook, and detach it from the tape.
(4) Remove the screw (a) of the side frame (L/R).
(5) Hold the slack tape and cassette cover together, lift the cassette tape, top frame, cassette holder and side frames (L, R) together from the rear and remove them by disengaging the hooks (a) and (b).

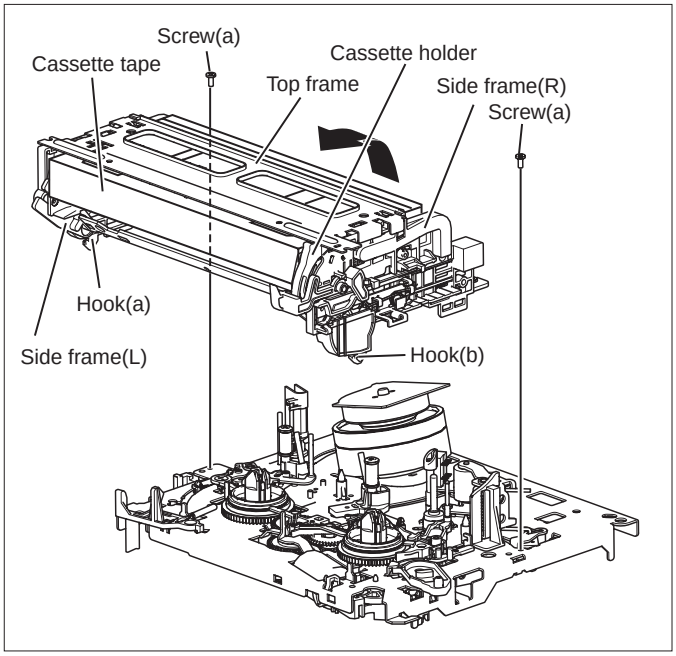


Fig. 1-1c

(6) Take up the slack of the tape into the cassette. This completes removal of the cassette tape.

1.2 Removing the major parts

1.2.1 How to read the procedure table

This table shows the steps for disassembly of the externally furnished parts and board assemblies. Reverse these steps when re-assembling them.

<Example>

Step/ Loc No.	Part Name	Fig. No.	Point	Note
[1]	Top cover,	1-3a	4(S1a),(S1b),3(L1a), 2(SD1a),(P1a),(W1a), CN1(WR1a),	<Note 1a>
	Bracket		2(S1c)	

(1) (2) (3) (4) (5)

(1) Order of steps in Procedure
When reassembling, perform the step(s) in the reverse order.
These numbers are also used as the identification (location) No. of parts Figures.
(2) Part name to be removed or installed.
(3) Fig. No. showing procedure or part location.
(4) Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped or unsoldered.
P= Spring, W= Washer, S= Screw, L= Locking tab, SD= Solder, CN**(WR**)= Remove the wire (WR**) from the connector (CN**).

Note:

- ***The bracketed ( ) WR of the connector symbol are assigned nos. in priority order and do not correspond to those on the spare parts list.***

(5) Adjustment information for installation

1.2.2 Disassembly procedure

Step/ Loc No.	Part Name	Fig. No.	Point	Note
[1]	Top cover	1-2-2d	4(S1a), (S1b)	
[2]	Front panel assembly	1-2-2d	[HR-S7955MS] CN7005(WR2a)	<Note 2a> <Note 2b>
			[HR-S6950EU, S6950MS HR-S7950EU, S7955EK] CN7001(WR2a),	
			CN916(WR2b), 2(S2a), 4(L2a), 3(L2b)	
	[HR-S7955MS] Mini front board assembly		CN7001(WR2c) (L2c), (L2d), PC Support	
	(ADV. Jog board assembly)		2(S2b), Knob assembly	
	(Front S jack board assembly)		2(S2c)	
[3]	Mechanism assembly	1-2-2d	CN2001(WR3a), (S3a), (S3b)	<Note 2a> <Note 3a> <Note 3b> <Note 3c>
	(Drum assembly)		CN1(WR3b), (S3c), (S3d), (S3e)	
	(Inertia plate)		4(L3b)	
	(Roller arm assembly)		(S3g), (W3a), (P3a), (L3c)	
[4]	[HR-S6955MS, S7955MS] S/P Converter board assembly	1-2-2d	CN511(WR4a) 2(S4a), (L4a)	
[5]	Main board assembly	1-2-2d	(S5a), 3(S5b), (L5a)	
[6]	Bottom cover	1-2-2d	3(L6a), 5(L6b), 2(L6c)	

<Note 2a>
- Be careful not to damage the connector and wire etc. during connection and disconnection.
- When connecting the flat wire to the connector, be careful with the flat wire direction.

<Note 2b>
- When reattaching the Front panel assembly, make sure that the door opener of the Side frame (R) is lowered in position prior to the reinstallation.
- When reattaching the Front panel assembly, pay careful attention to the switch lever of the Front panel assembly not to make it touch the switch knob of the Main board assembly from the side.
- When reattaching the Front panel assembly, lift the Cassette door slightly.

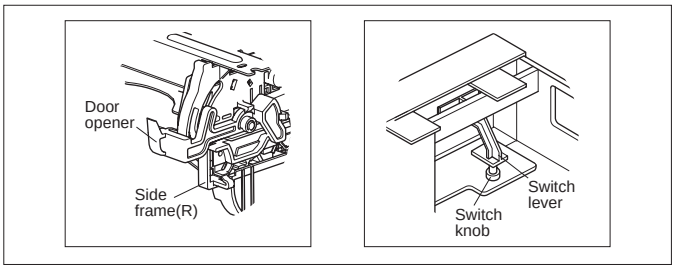


Fig. 1-2-2a

<Note 3a>
- When reattaching the Mechanism assembly, secure the screws (S3a to S3b) in the order of a, b.

<Note 3b>
- When reattaching the Mechanism assembly, be sure to align the phase of the Rotary encoder on the Main board assembly.
- When reattaching the Mechanism assembly, set the “Mechanism assembling mode”. (See “section 2 mechanism”.)
- When reattaching the Mechanism assembly to the Main board assembly, take care not to damage the sensors and switch on the Main board assembly.

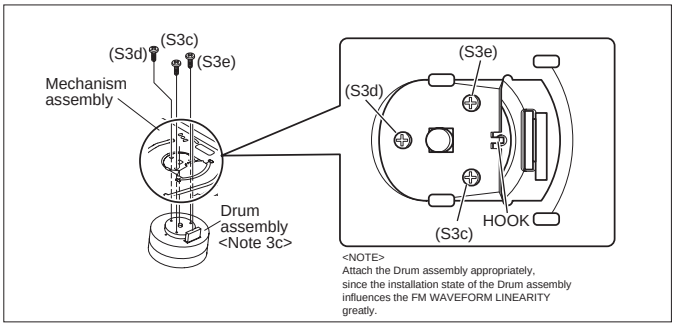


Fig. 1-2-2b

<Note 3c>
- When reattaching the Drum assembly, secure the screws (S3c to S3e) in the order of c, d, e.
- When handling the drum assembly alone, hold it by the motor or shaft. Be careful not to touch other parts, especially the video heads. Also take care not to damage the connectors.

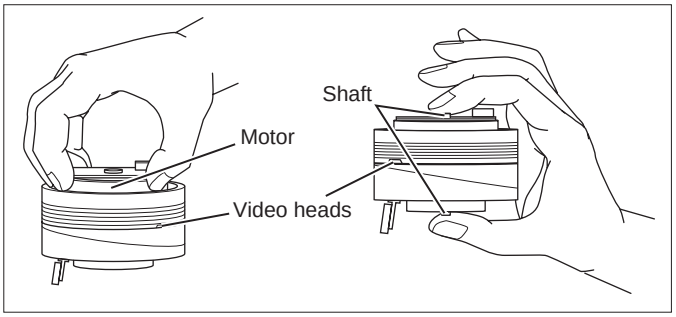


Fig. 1-2-2c

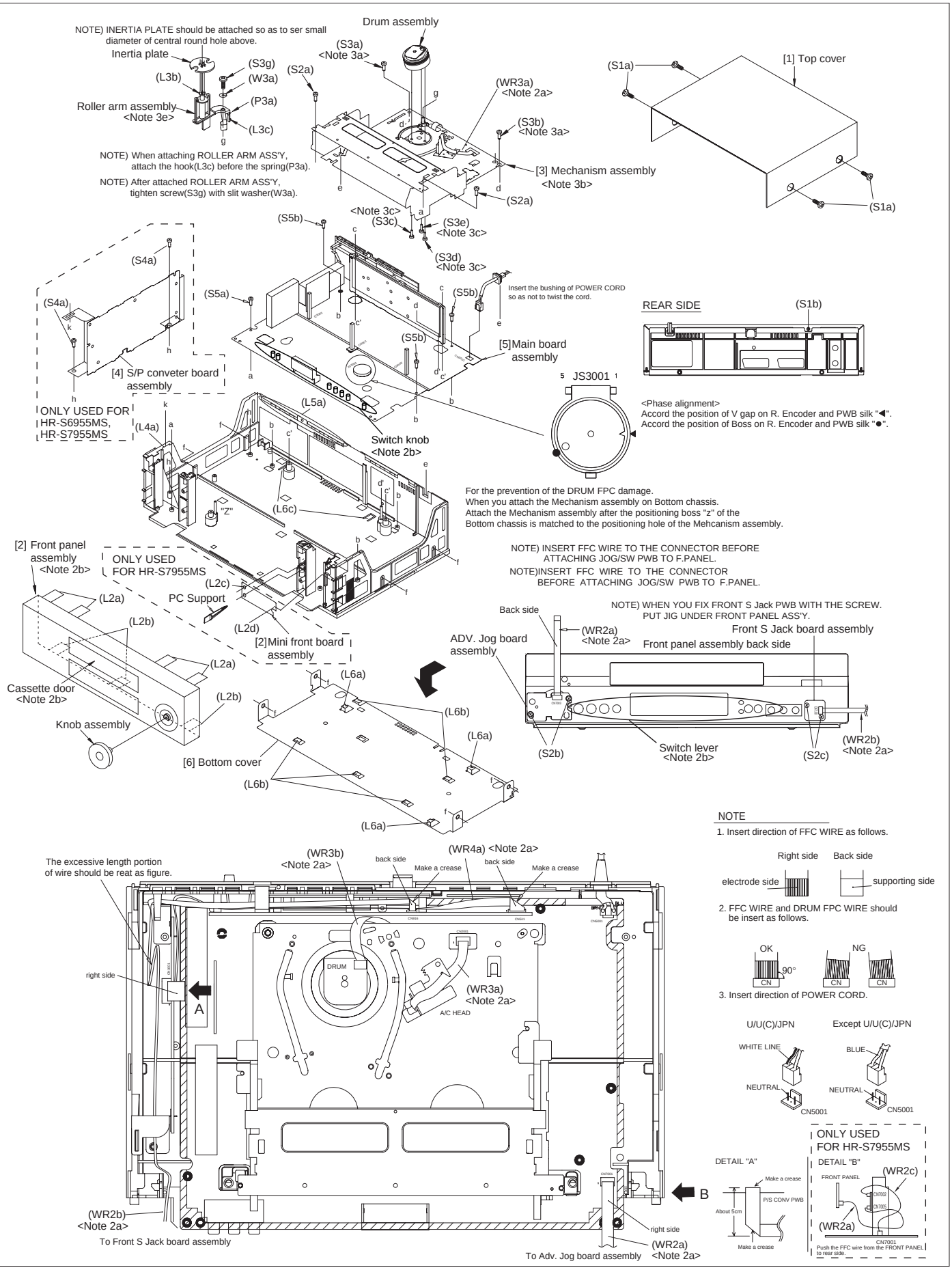

NOTE) INERTIA PLATE should be attached so as to ser small diameter of central round hole above.
Inertia plate
(L3b)
(S3g)
(W3a)
(P3a)
Roller arm assembly <Note 3e>
(L3c)
NOTE) When attaching ROLLER ARM ASS'Y, attach the hook(L3c) before the spring(P3a).
NOTE) After attached ROLLER ARM ASS'Y, tighten screw(S3g) with slit washer(W3a).
Drum assembly
(S3a) <Note 3a>
(S2a)
(WR3a) <Note 2a>
(S3b) <Note 3a>
[3] Mechanism assembly <Note 3b>
(S2a)
[1] Top cover
(S1a)
(S1a)
<Note 3c>
(S3c)
(S3e) <Note 3c>
(S5b)
(S3d) <Note 3c>
(S4a)
(S5a)
(S5b)
Insert the bushing of POWER CORD so as not to twist the cord.
REAR SIDE
(S1b)
(S4a)
[4] S/P conveter board assembly
(S5b)
[5]Main board assembly
JS3001
<Phase alignment>
Accord the position of V gap on R. Encoder and PWB silk "◀".
Accord the position of Boss on R. Encoder and PWB silk "●".
ONLY USED FOR HR-S6955MS, HR-S7955MS
(L4a)
(L5a)
Switch knob <Note 2b>
"Z"
(L6c)
For the prevention of the DRUM FPC damage.
When you attach the Mechanism assembly on Bottom chassis.
Attach the Mechanism assembly after the positioning boss "z" of the Bottom chassis is matched to the positioning hole of the Mehcanism assembly.
[2] Front panel assembly <Note 2b>
ONLY USED FOR HR-S7955MS
(L2c)
(L2a)
PC Support
(L2b)
(L2d)
[2]Mini front board assembly
NOTE) INSERT FFC WIRE TO THE CONNECTOR BEFORE ATTACHING JOG/SW PWB TO F.PANEL.
NOTE)INSERT FFC WIRE TO THE CONNECTOR BEFORE ATTACHING JOG/SW PWB TO F.PANEL.
NOTE) WHEN YOU FIX FRONT S Jack PWB WITH THE SCREW. PUT JIG UNDER FRONT PANEL ASS'Y.
Back side
(WR2a) <Note 2a>
ADV. Jog board assembly
Front panel assembly back side
Front S Jack board assembly
(L2a)
Cassette door <Note 2b>
(L2b)
Knob assembly
(L6a)
(L6b)
(L6a)
[6] Bottom cover
(L6b)
(L6a)
(S2b)
Switch lever <Note 2b>
(S2c)
(WR2b) <Note 2a>
NOTE
1. Insert direction of FFC WIRE as follows.
Right side
Back side
electrode side
supporting side
2. FFC WIRE and DRUM FPC WIRE should be insert as follows.
OK
NG
90°
CN
3. Insert direction of POWER CORD.
U/U(C)/JPN
Except U/U(C)/JPN
WHITE LINE
BLUE
NEUTRAL
NEUTRAL
CN5001
CN5001
The excessive length portion of wire should be reat as figure.
(WR3b) <Note 2a>
back side
Make a crease
(WR4a) <Note 2a>
back side
Make a crease
right side
DRUM
A
(WR3a) <Note 2a>
A/C HEAD
B
(WR2b) <Note 2a>
To Front S Jack board assembly
right side
(WR2a) <Note 2a>
To Adv. Jog board assembly
ONLY USED FOR HR-S7955MS
DETAIL "A"
Make a crease
P/S CONV PWB
About 5cm
Make a crease
DETAIL "B"
FRONT PANEL
(WR2c)
(WR2a)
CN7001
Push the FFC wire from the FRONT PANEL to rear side.

Fig. 1-2-2d

1.3 Emergency display function

This unit saves details of the last two emergencies as the EMG history and allows the status of the VCR and the mechanism of each emergency to be shown both on the display and as OSD information.
When using the emergency function, it is required to set the VCR to the Jig RCU mode (the mode in which codes from the Jig RCU can be received).

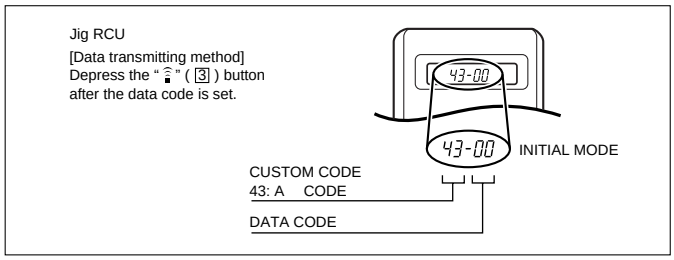


Fig. 1-3a Jig RCU [PTU94023B]

1.3.1 Displaying the EMG information

The EMG detail of information can be displayed by transmitting the code "59" from the Jig RCU.

Note:

- ***The EMG detail information <1><2> show the information on the latest EMG.***
  It becomes " – – : – – : – –" when there is no latest EMG record.

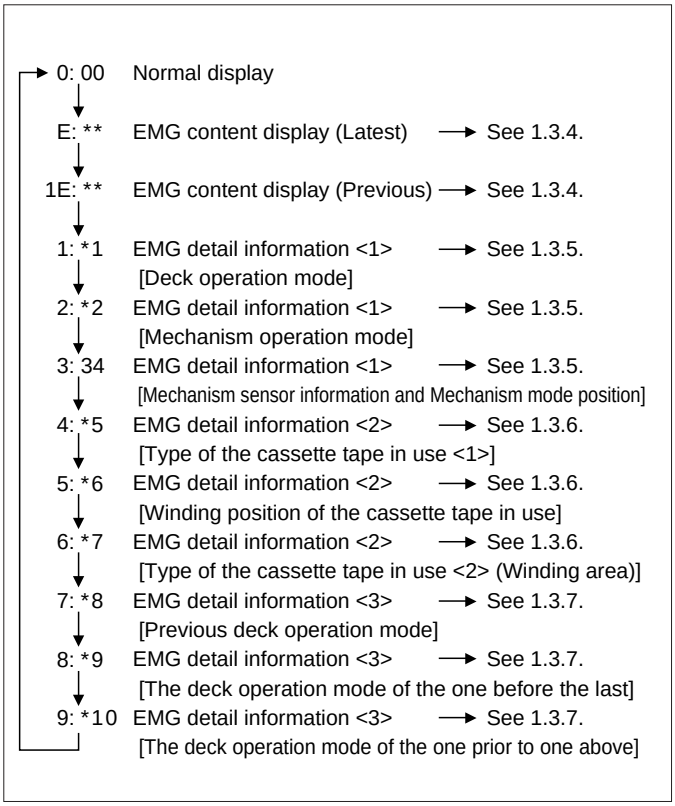

0: 00 Normal display
E: ** EMG content display (Latest) → See 1.3.4.
1E: ** EMG content display (Previous) → See 1.3.4.
1: *1 EMG detail information <1> → See 1.3.5.
[Deck operation mode]
2: *2 EMG detail information <1> → See 1.3.5.
[Mechanism operation mode]
3: 34 EMG detail information <1> → See 1.3.5.
[Mechanism sensor information and Mechanism mode position]
4: *5 EMG detail information <2> → See 1.3.6.
[Type of the cassette tape in use <1>]
5: *6 EMG detail information <2> → See 1.3.6.
[Winding position of the cassette tape in use]
6: *7 EMG detail information <2> → See 1.3.6.
[Type of the cassette tape in use <2> (Winding area)]
7: *8 EMG detail information <3> → See 1.3.7.
[Previous deck operation mode]
8: *9 EMG detail information <3> → See 1.3.7.
[The deck operation mode of the one before the last]
9: *10 EMG detail information <3> → See 1.3.7.
[The deck operation mode of the one prior to one above]

Fig. 1-3-1a EMG display of 7segment LED display model

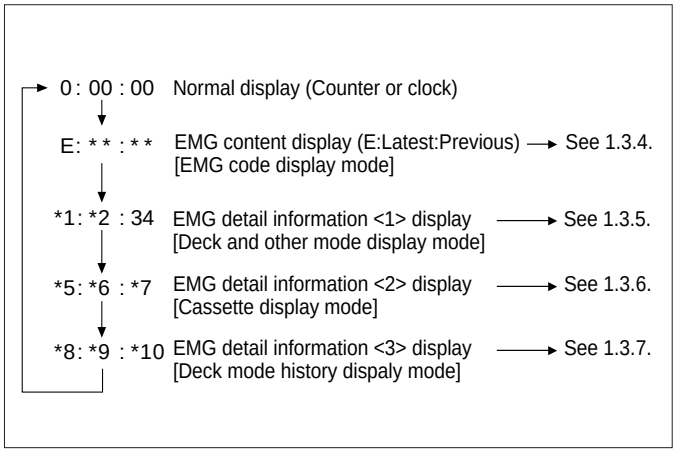

0 : 00 : 00 Normal display (Counter or clock)
E: * * : * * EMG content display (E:Latest:Previous) → See 1.3.4.
[EMG code display mode]
*1: *2 : 34 EMG detail information <1> display → See 1.3.5.
[Deck and other mode display mode]
*5: *6 : *7 EMG detail information <2> display → See 1.3.6.
[Cassette display mode]
*8: *9 : *10 EMG detail information <3> display → See 1.3.7.
[Deck mode history dispaly mode]

Fig. 1-3-1b EMG display of FDP display model

<Reference> EMG display of FDP display mode

(1) Transmit the code "59" from the Jig RCU.
The FDP shows the EMG content in the form of "E: * * : * * ".

<Example 1> E : 01 : 03
Previous EMG
Latest EMG

<Example 2> E : – – : – – ← No EMG record

(2) Transmit the code "59" from the Jig RCU again.
The FDP shows the EMG detail information <1> in the form of " *1 : *2 : 34 ".
*1 : Deck operation mode at the moment of EMG
*2 : Mechanism operation mode at the moment of EMG
3– : Mechanism sensor information at the moment of EMG
–4 : Mechanism mode position at the moment of EMG

(3) Transmit the code "59" from the Jig RCU once again.
The FDP shows the EMG detail information <2> in the form of " *5 : *6 : *7 ".
*5 : Type of the cassette tape in use <1> .
*6 : Winding position of the cassette tape in use
*7 : Type of the cassette tape in use <2> (Winding area)

(4) Transmit the code "59" from the Jig RCU once again.
The FDP shows the EMG detail information <3> in the form of "*8 : *9 : *10".
*8 : Previous deck operation mode at the moment of EMG
*9 : The deck operation mode of the one before the last at the moment of EMG
*10 : The deck operation mode of the one prior to one above at the moment of EMG

(5) Transmit the code "59" from the Jig RCU once again to reset the display.

1.3.2 Clearing the EMG history

(1) Display the EMG history.
(2) Transmit the code "36" from the Jig RCU.
(3) Reset the EMG display.

1.3.3 Details of the OSD display in the EMG display mode

During the EMG display, the OSD shows the data on the deck mode, etc. The details of the display contents are as follows.

Notes:

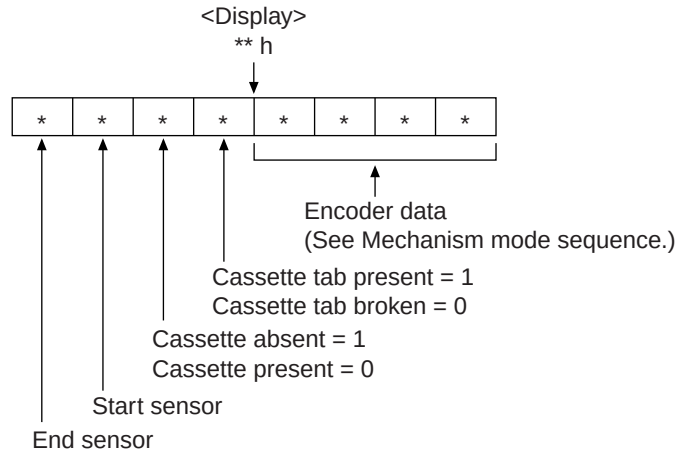
- ***The display is variable depending on the part No. of the System Control microcomputer (IC3001) built into the VCR. In the following, refer to the figure carrying the same two characters as the top two characters of the part number of your IC.***
- ***The sensor information in the OSD display contents is partially different from the mechanism sensor information in EMG detail information <1>.***

[For MN* only]

AA	BB	CC	DD	EE
FF	GG	HH	I I	J J
KK	L L	MM	NN	OO
PP	QQ	RR	SS	TT
UU	VV	WW	XX	YY

A A : Deck operation mode (See EMG detail information <1>.)
B B : Mechanism operation mode (See EMG detail of information <1>.)
C C : Mechanism transition flag
D D : Capstan motor control status
E E : Loading motor control status
F F : Sensor information (See sensor information details.)
GG : Capstan motor speed
HH : Key code (JVC code)
I I : Supply reel winding diameter data, higher 8 bits.
J J : Supply reel winding diameter data, lower 8 bits.
KK : Mechanism sensor information & mechanism mode position (See EMG detail of information <1>.)
L L : Tape speed data, higher 8 bits.
MM : Tape speed data, lower 8 bits.
N N : Cassette tape type <2>, higher 8 bits. (See EMG detail of information <2>.)
OO : Cassette tape type <2>, lower 8 bits. (See EMG detail of information <2>.)
P P : General data display area
| |
Y Y : General data display area

***FF: Sensor information details**

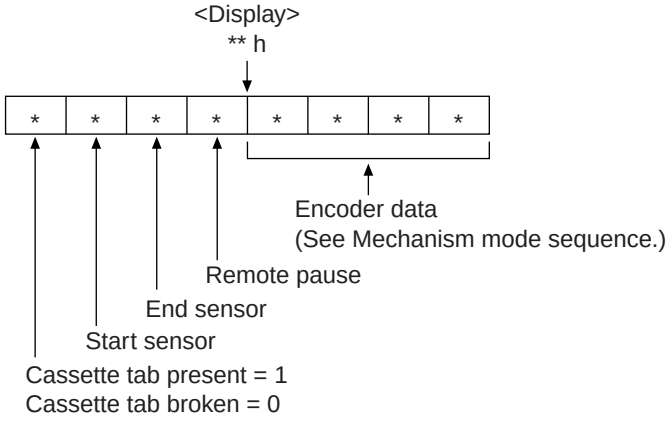


[For *HD only]

AA	BB	CC
DD	EE	FF
GGGG	HHHH	
I I	J J J J	
KKKK	L L L L	MMMM
ROM No.		

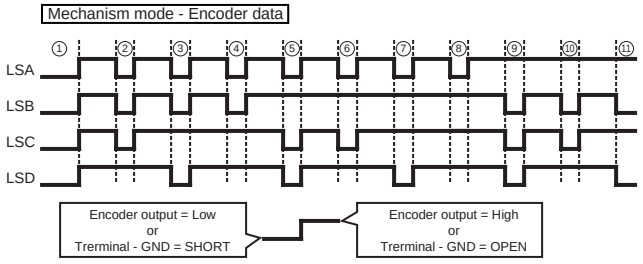
A A : Key code (JVC code)
B B : Deck operation mode (See EMG detail information <1>.)
C C : Mechanism operation mode (See EMG detail information <1>.)
D D : Sensor information (See sensor information details.)
E E : Capstan motor speed (Search, double speed)
F F : Tracking value
GGGG : Cassette tape type <2>, 16 bits. (See EMG detail information <2>.)
HHHH : Supply reel winding diameter data
I I : Capstan motor speed (FF/REW, double speed)
J J J J : Tape speed data, lower 8 bits.
K K K K : General data display area
L L L L : General data display area
MMMM : General data display area

***DD: Sensor information details**

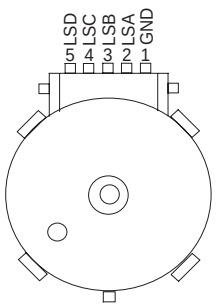


[For both MN*/HD*]

Mechanism mode sequence



No.	Position	Encoder data
①	EJECT	0 h = 0000
②	EJECT1	1 h = 0001
③	EJECT2	2 h = 0010
④	ULSTOP	3 h = 0011
⑤	UPPER	4 h = 0100
⑥	ONSTOP(PLAY)	5 h = 0101
⑦	FWD/SS	6 h = 0110
⑧	REV/SS	7 h = 0111
⑨	OFFSTOP	8 h = 1000
⑩	FFREW-BRAKE	9 h = 1001
⑪	FFREW	A h = 1010
⑫	MIDDLE	F h = 1111



1.3.4 EMG content description

Note: ***EMG contents "E08/E09" are for the model with Dynamic Drum (DD).***

FDP	CONTENT	CAUSE
E01: Loading EMG	If the mechanism mode does not change to the next mode within 4 seconds after the loading motor starts rotating in the loading direction, while the mechanism is in the after-loading position (with the tape up against the pole base), [E:01] is identified and the power is switched OFF. However, if the tape loading is not completed within 4 seconds after the loading motor starts rotating in the loading direction, the tape is simply unloaded and ejected. No EMG data is recorded in this case.	1. The mechanism is locked in the middle of the mode transition during a tape loading operation. 2. The mechanism overruns during the tape loading operation because the SYSCON cannot recognize the mechanism mode normally. This problem is due to a cause such as a rotary encoder failure. 3. Power is not supplied to the loading MDA. (M12V/Vcc/Vref/ICP are disconnected in the middle.)
E02: Unloading EMG	When the mechanism mode cannot be changed to another mode even when the loading motor has rotated for more than 4 seconds in the unloading direction, [E:02] is identified and the power is turned off.	1. The mechanism is locked in the middle of mode transition. 2. Without an eject signal being sent from the SYSCON, unloading is attempted (i.e. Ejection is attempted while the tape is still inside the mechanism.) because the SYSCON cannot recognize the mechanism mode normally. This is due to a cause such as a rotary encoder failure. (Mechanism position: UPPER) 3. Power is not supplied to the loading MDA. (M12V/Vcc/Vref/ICP are disconnected in the middle.)
E03: Take Up Reel Pulse EMG	When the falling edje of the take-up reel pulse has not been generated for more than 4 seconds in the capstan rotating mode, [E:03] is identified, the pinch rollers are turned off and stopped, and the power is turned off. In this case, however, the mechanism should be in position after tape loading. Note that the reel EMG is not detected during Slow/Frame advance operations.	1. The take-up reel pulse is not generated in the FWD transport modes (PLAY/FWD SEARCH/FF, etc.) because; 1)The idler gear is not meshed with the take-up reel gear because the mechanism malfunctions for some reason. 2)The idler gear is meshed with the take-up reel gear, but incapable of winding due to too large mechanical load (abnormal tension); 3)The reel is rotating normally but an FG pulse is not generated due to the take-up reel sensor failure. 2. The supply reel pulse is not generated in the REV transport modes (REV SEARCH/REW, etc.) because; 1) The idler gear is not meshed with the supply reel gear because the mechanism malfunctions for some reason. 2) The idler gear is meshed with the supply reel gear, but incapable of winding due to too large a mechanical load (abnormal tension); 3) The reel rotates normally but the FG pulse is not generated due to a supply reel sensor failure. 3. Power(SW5V) is not supplied to the reel sensor on the tape winding side.
E04: Drum FG EMG	When the drum FG pulse has not been input for more than 3 seconds in the drum rotating mode, [E:04] is identified, the pinch rollers are turned off and stopped, and the power is turned off.	1. The drum could not start or the drum rotation has stopped due to too large a load on the tape, because; 1) The tape tension is abnormally high; 2) The tape is damaged or a foreign object (grease, etc.) adheres to the tape. 2. The drum FG pulse did not reach the System controller CPU because; 1) The signal circuit is disconnected in the middle; 2) The FG pulse generator (hall device) of the drum is faulty. 3. The drum control voltage (DRUM CTL V) is not supplied to the MDA. 4. Power (M12V) is not supplied to the drum MDA.
E05: Cassette Eject EMG	If the cassette does not reach the eject position within about 0.7 seconds after the cassette housing has started the cassette ejection operation, [E:05] is identified, the drive direction is reversed to load the tape, the mode is switched to STOP mode with the pinch roller OFF, and the power is switched OFF. During the cassette insertion process, the drive direction is reversed and the cassette is ejected if the tape is not up against the pole base within about 3 seconds after the start of the cassette pulling-in operation. If the cassette does not reach the eject position within about 0.7 seconds after the drive mode reversal operation, [E:05] is identified and the power is switched OFF immediately.	1. The cassette cannot be ejected due to a failure in the drive mechanism of the housing. 2. When the housing load increases during ejection, the loading motor is stopped because of lack of headroom in its drive torque. Housing load increasing factors: Temperature environment (low temperature, etc.), mechanism wear or failure. 3. The sensor/switch for detecting the end of ejection are not functioning normally. 4. The loading motor drive voltage is lower than specified or power (M12V) is not supplied to the motor (MDA). 5. When the user attempted to eject a cassette, a foreign object (or perhaps the user's hand) was caught in the opening of the housing.
E06: Capstan FG EMG	When the capstan FG pulse has not been generated for more than 1 second in the capstan rotating mode, [E:06] is identified, the pinch rollers are turned off and stopped, and the power is turned off.However, the capstan EMG is not detected in SLOW/STILL modes. Note that, if the part number of the System Control IC begins with "MN" or "M3", the capstan EMG is not detected even during the FF/REW operation.	1. The capstan could not start or the capstan rotation has stopped due to too large a load on the tape, because; 1) The tape tension is abnormally high (mechanical lock); 2) The tape is damaged or a foreign object (grease, etc.) is adhered to the tape (occurrence of tape entangling, etc.). 2. The capstan FG pulse did not reach the System controller CPU because; 1) The signal circuit is disconnected in the middle; 2) The FG pulse generator (MR device) of the capstans is faulty. 3. The capstan control voltage (CAPSTAN CTL V) is not supplied to the MDA. 4. Power (M12V, SW5V) are not supplied to the capstan MDA.
E07: SW Power Short-Circuit EMG	When short-circuiting of the SW power supply with GND has lasted for 0.5 second or more, [E:07] is identified, all the motors are stopped and the power is turned off.	1. The SW 5 V power supply circuit is shorted with GND. 2. The SW 12 V power supply circuit is shorted with GND.
E08: DD Initialized (Absolute Position Sensor) EMG	When DD tilting does not complete in 4 seconds, [E:08] is identified, the tilt motor is stopped and the power is turned off.	1. The absolute value sensor is defective. (The soldered parts have separated.) 2. The pull-up resistor at the absolute sensor output is defective. (The soldered parts have separated.) 3. Contact failure or soldering failure of the pins of the connector (board-to-board) to the absolute value sensor. 4. The absolute value sensor data is not sent to the System Controller CPU.
E09: DD FG EMG	When the DD FG pulse is not generated within 2.5 seconds, [E:09] is identified, the tilt motor is stopped and the power is turned off.	1. The FG sensor is defective. (The soldered parts have separated.) 2. The pull-up resistor at the FG sensor output is defective. (The soldered parts have separated.) 3. Contact failure or soldering failure of the pins of the connector (board-to-board) to the FG sensor. 4. The power (5V) to the sensor is not supplied. (Connection failure/soldering failure) 5. The FG pulse is not sent to the System Controller CPU. 6. The tilt motor is defective. (The soldered parts have separated.) 7. The drive power to the tilt motor is not supplied. (Connection failure/soldering failure) 8. The tilt motor drive MDA - IC is defective. 9. Auto-recovery of the DD tilting cannot take place due to overrun.
E0A: Supply Reel Pulse EMG	When the falling edge of the supply reel pulse has not been generated for more than 10 seconds in the capstan rotating mode, [E:0A] is identified and the cassette is ejected (but the power is not turned off). In this case, however, the mechanism should be in the position after tape loading (with the tape up against the pole base). Also note that the reel EMG is not detected during Slow/Frame advance operations.	1. The supply reel pulse is not generated in the FWD transport mode (PLAY/FWD SEARCH/FF, etc.) because; 1) PLAY/FWD or SEARCH/FF is started while the tape in the inserted cassette is cut in the middle; 2) A mechanical factor caused tape slack inside and outside the supply reel side of the cassette shell. In this case, the supply reel will not rotate until the tape slack is removed by the FWD transport, so the pulse is not generated until then; 3) The reel is rotating normally but the FG pulse is not generated due to a supply reel sensor failure. 2. The take-up reel pulse is not generated in the REV transport mode (REV SEARCH/REW, etc.). 1) REV SEARCH/REW is started when the tape in the inserted cassette has been cut in the middle; 2) A mechanical factor caused tape slack inside and outside the take-up reel side of the cassette shell. In this case, the supply reel will not rotate until the tape slack is removed by the REV transport, so the pulse will not be generated until that time; 3) The reel is rotating normally but the FG pulse is not generated due to a take-up reel sensor failure. 3. The power (SW 5V) to a reel sensor is not supplied.
EU1: Head clog warning history	Presupposing the presence of the control pulse output in the PLAY mode, when the value obtained by mixing the two V.FM output channels (without regard to the A.FM output) has remained below a certain threshold level for more than 10 seconds, [E:U1] is identified and recorded in the emergency history. During the period in which the head clog is detected, the FDP shows "U:01" and the OSD repeats the "3 seconds of warning display" and the "7 seconds of noise picture display" alternately. EMG code : "E:C1" or "E:U1" / FDP : "U:01" / OSD : "Try cleaning tape." or "Use cleaning cassette." The head clog warning is reset when the above-mentioned threshold has been exceeded for more than 2 seconds or the mode is changed to another mode than PLAY.	

Table 1-3-4a

1.3.5 EMG detail information <1>

The status (electrical operation mode) of the VCR and the status (mechanism operation mode/sensor information) of the mechanism in the latest EMG can be confirmed based on the figure in EMG detail information <1> .

[FDP/OSD display]

*1 : *2 : 34

*1 : Deck operation mode at the moment of EMG
*2 : Mechanism operation mode at the moment of EMG
3– : Mechanism sensor information at the moment of EMG
–4 : Mechanism mode position at the moment of EMG

Note:

- ***For EMG detailed information <1>, the content of the code that is shown on the display (or OSD) differs depending on the parts number of the system control microprocessor (IC3001) of the VCR. The system control microprocessor parts number starts with two letters, refer these to the corresponding table.***

***1 : Deck operation mode**
[Common table of MN* and HD]

Display		Deck operation mode
MN*	HD*	
00	-	Mechanism being initialized
01	00	STOP with pinch roller pressure off (or tape present with P.OFF)
02	01	STOP with pinch roller pressure on
03	-	POWER OFF as a result of EMG
04	04	PLAY (Normal playback)
0C	0E	REC
10	11	Cassette ejected
20	22	FF
21	-	Tape fully loaded, START sensor ON, short FF
22	-	Cassette identification FWD SEARCH before transition to FF (SP x7-speed)
24	26	FWD SEARCH (variable speed) including x2-speed
2C	2E	INSERT REC
40	43	REW
42	-	Cassette identification REV SEARCH before transition to REW (SP x7-speed)
44	47	REV SEARCH (variable speed)
4C	4C	AUDIO DUB
6C	6E	INSERT REC (VIDEO + AUDIO)
84	84	FWD STILL / SLOW
85	85	REV STILL / SLOW
8C	8F	REC PAUSE
8D	-	Back spacing
8E	-	Forward spacing (FWD transport mode with BEST function)
AC	AF	INSERT REC PAUSE
AD	-	INSERT REC back spacing
CC	CD	AUDIO DUB PAUSE
CD	-	AUDIO DUB back spacing
EC	EF	INSERT REC (VIDEO + AUDIO) PAUSE
ED	-	INSERT REC (VIDEO + AUDIO) back spacing

***2 : Mechanism operation mode**
[Table of MN*]

Display	Mechanism operation mode
00	Command standby (No command to be executed)
01	Immediate Power OFF after EMG occurrence
02	Loading from an intermediate position during mechanism initialization
03	Unloading due to EMG occurrence during mechanism initialization
04	Ejecting cassette (ULSTOP to EJECT)
05	Inserting cassette (EJECT to ULSTOP)
06	Loading tape (ULSTOP to PLAY)
07	Unloading tape (PLAY to ULSTOP)
08	Transition from pinch roller ON to STOP
09	Transition from pinch roller OFF to STOP (PLAY to OFFSTOP)
0A	Transition from pinch roller OFF to STOP at power OFF
0B	Transition from pinch roller ON to STOP at power ON
0C	Transition to PLAY
0D	Transition to Search FF
0E	Transition to REC
0F	Transition to FWD STILL/SLOW
10	Transition to REV STILL/SLOW
11	Transition to Search REV
12	Transition from FF/REW to STOP
13	Transition to FF
14	Transition to REW
15	Tape end detection processing during loading
16	Short FWD/REV at tape sensor ON during unloading
17	Transition to FF/REW brake mode

[Table of HD*]

Display	Mechanism operation mode
00	STOP with pinch roller pressure off
01	STOP with pinch roller pressure on
02	U/L STOP (or tape being loaded)
04	PLAY (Normal playback)
05	PLAY (x1-speed playback using JOG)
0E	REC
11	Cassette ejected
22	FF
26	FWD SEARCH (variable speed) including x2-speed
2E	INSERT REC
43	REW
47	REV SEARCH
4C	AUDIO DUB
6E	INSERT REC (VIDEO + AUDIO)
84	FWD STILL/SLOW
85	REV STILL/SLOW
8F	REC PAUSE
AF	INSERT REC PAUSE
C7	REV SEARCH (x1-speed reverse playback using JOG)
CD	AUDIO DUB PAUSE
EF	INSERT REC (VIDEO + AUDIO) PAUSE
F0	Mechanism being initialized
F1	POWER OFF as a result of EMG
F2	Cassette being inserted
F3	Cassette being ejected
F4	Transition from STOP with pinch roller pressure on to STOP with pinch roller pressure off
F5	Transition from STOP with pinch roller pressure on to PLAY
F6	Transition from STOP with pinch roller pressure on to REC
F7	Cassette type detection SEARCH before FF/REW is being executed
F8	Tape being unloaded
F9	Transition from STOP with pinch roller pressure off to STOP with pinch roller pressure on
FA	Transition from STOP with pinch roller pressure off to FF/REW
FB	Transition from STOP with pinch roller pressure off to REC.P (T.REC,etc.)
FC	Transition from STOP with pinch roller pressure off to cassette type detection SEARCH
FD	Short REV being executed after END sensor on during unloading
FE	Tension loosening being executed after tape loading (STOP with pinch roller pressure on)
FF	Tape being unloaded

3– : Mechanism sensor information
[Common table of MN* and HD*]

Display	Mechanism sensor information			
	REC safety SW	Start sensor	End sensor	Mechansim position sensor
0-	Tab broken	ON	ON	ON
1-	Tab broken	ON	ON	OFF
2-	Tab broken	ON	OFF	ON
3-	Tab broken	ON	OFF	OFF
4-	Tab present	OFF	ON	ON
5-	Tab present	OFF	ON	OFF
6-	Tab present	OFF	OFF	ON
7-	Tab present	OFF	OFF	OFF
8-	Tab broken	ON	ON	ON
9-	Tab broken	ON	ON	OFF
A-	Tab broken	ON	OFF	ON
B-	Tab broken	ON	OFF	OFF
C-	Tab present	OFF	ON	ON
D-	Tab present	OFF	ON	OFF
E-	Tab present	OFF	OFF	ON
F-	Tab present	OFF	OFF	OFF

Tab broken = 0 Sensor ON = 0 Sensor ON = 0
Tab present = 1 sensor OFF = 1 Sensor OFF = 1

–4 : Mechanism mode position
[Common table of MN* and HD*]

Mechanism sensor information	Display	Deck operation mode	
Even number (0, 2, 4, 6, 8, A, C, E)	-0	Not established	
	-1	EJECT	EJECT position
	-2	EJECT-EJECT1	Intermodal position
	-3	EJECT1	EJECT1 position
	-4	EJECT1-EJECT2	Intermodal position
	-5	EJECT2	EJECT2 position
	-6	EJECT2-ULSTOP	Intermodal position
	-7	ULSTOP	ULSTOP position
	-8	ULSTOP-UPPER	Intermodal position
	-9	UPPER	Loading (unloading) tape
	-A	UPPER-ONSTOP	Intermodal position
	-B	ONSTOP	PLAY position
	-C	PLAY-FWD/SS	Intermodal position
	-D	FWD/SS	FWD (FWD Still/Slow) position
	-E	FWD/SS-REV	Intermodal position
	-F	REV	REV (REV Still/Slow) position
Odd number (1, 3, 5, 7, 9, B, D, F)	-0	REV-OFFSTOP	Intermodal position
	-1	OFFSTOP	Pinch roller OFF position
	-2	OFFSTOP-FFREWB	Intermodal position
	-3	FFREWB	FF/REW Brake position
	-4	FFREWB-FFREW	Intermodal position
	-5	FFREW	FF/REW position

1.3.6 EMG detail information <2>

The type of the cassette tape and the cassette tape winding position can be confirmed based on the figure in EMG detail information <2> .

[FDP/OSD display]

*5 :*6 :*7

*5 : Type of the cassette tape in use <1>
*6 : Winding position of the cassette tape in use
*7 : Type of the cassette tape in use <2> (Winding area)

Note:

- ***EMG detail information <2> is the reference information stored using the remaining tape detection function of the cassette tape. As a result, it may not identify cassette correctly when a special cassette tape is used or when the tape has variable thickness.***

***5 : Cassette tape type <1>**

Display	Cassette tape type <1>
00	Cassette type not identified
16	Large reel/small reel (T-0 to T-15/T-130 to T-210) not classified
82	Small reel, thick tape (T-120) identified/thin tape (T-140) identified
84	Large reel (T-0 to T-60) identified
92	Small reel, thick tape (T-130) identified/thin tape (T-160 to T-210) identified
93	Small reel, thick tape/C cassette (T-0 to T-100/C cassette) not classified
C3	Small reel, thick tape/C cassette (T-0 to T-100/C cassette) being classified
D3	Small reel, thick tape/C cassette (T-0 to T-100/C cassette) being classified
E1	C cassette, thick tape (TC-10 to TC-20) identified
E2	Small reel, thick tape (T-0 to T-100) identified
E9	C cassette, thin tape (TC-30 to TC-40) identified
F1	C cassette, thick tape/thin tape (TC-10 to TC-40) not classified

Notes:

- ***Cassette tape type <1> is identified a few times during mode transition and the identification count is variable depending on the cassette tape type. If an EMG occurs in the middle of identification, the cassette tape type may not be able to be identified.***
- ***If other value than those listed in the above table is displayed, the cassette tape type is not identified.***

***6 : Cassette tape winding position**

The cassette tape winding position at the moment of EMG is displayed by dividing the entire tape (from the beginning to the end) in 21 sections using a hex number from “00” to “14”.

“00” : End of winding
“14” : Beginning of winding
“FF” : Tape position not identified

***7 : Cassette tape type <2> (Winding area)**

Display	Cassette tape type <2>		(Reference) Word data (Beginning) (End)
00	Cassette type not identified		
04 - 08	C cassette, thick tape	TC-10	(0497 - 0506) (0732 - 0858)
05 - 06	Small reel, thick tape	T-20	(05A9 - 0661)
05 - 0C	C cassette, thick tape	TC-20P	(0599 - 05FF) (0AA1 - 0C07)
06 - 0C	C cassette, thin tape	TC-40	(0623 - 063D) (0C41 - 0CC3)
06 - 0C	C cassette, thin tape	TC-30	(0611 - 0638) (0C0C - 0CB2)
07 - 08	Small reel, thick tape	T-40	(07CC - 08E5)
09 - 0B	Small reel, thick tape	T-60	(09FD - 0B78)
0C - 0D	Small reel, thick tape	T-80(DF-160)	(0C20 - 0DFC)
0D - 0F	Small reel, thick tape	T-90(DF-180)	(0D31 - 0F3E)
0E - 10	Small reel, thick tape	T-100	(0E43 - 107F)
10 - 12	Small reel, thin tape	T-140	(10E1 - 120C)
10 - 13	Small reel, thick tape	T-120(DF-240)	(1073 - 1313)
11 - 14	Small reel, thick tape	T-130	(1185 - 1429)
12 - 14	Small reel, thin tape	T-160	(12D3 - 141F)
13 - 14	Small reel, thin tape	T-210(DF-420)	(1373 - 14C3)
13 - 14	Small reel, thin tape	T-180(DF-360)	(1357 - 14C0)
13 - 14	Small reel, thin tape	T-168	(1395 - 14EE)
13 - 14	Small reel, thick tape	DF-300	(13A8 - 14CE)
15 - 16	Large reel	T-20	(1536 - 1618)
16 - 17	Large reel	T-30	(1647 - 175A)
17 - 18	Large reel	T-40	(1759 - 189C)
19 - 1B	Large reel	T-60	(1989 - 1B2F)

Note:

- ***The values of cassette tape type <2> in the above table are typical values with representative cassette tapes.***

1.3.7 EMG detail information <3>

Three deck operation modes preceding the deck operation mode in which the EMG occurs may be confirmed based on the figures in the EMG information detail <3>. For the contents of the displayed information, see the table "Deck operation mode" in section "1.3.5 EMG detail information <1>".

1.4 Service position

This unit has been designed so that the Mechanism and Main board assemblies can be removed together from the chassis assembly. Before diagnosing or servicing the circuit boards, take out the major parts from the chassis assembly.

1.4.1 How to set the “Service position”

(1) Refer to the disassembly procedure and perform the disassembly of the major parts before removing the Mechanism assembly.
(2) Remove the screws that fix the Mechanism assembly to the Chassis assembly. If any other screws are used to fix the boards, remove them also.
(3) Remove the combined Mechanism and Main board assemblies.
(4) If any other major parts are used, remove them also.
(5) Connect the wires and connectors of the major parts that have been removed in steps (1) to (4). (Refer to Fig. 1-2-2d.)
(6) Place the combined Mechanism, Main board and other board assemblies upside down.
(7) Insert the power cord plug into the power outlet and then proceed with the diagnostics and servicing of the board assembly.

Notes:

- ***Before inserting the power cord plug into the power outlet, make sure that none of the electrical parts are able to short-circuit between the workbench and the board assembly.***
- ***For the disassembly procedure of the major parts and details of the precautions to be taken, see “1.2 Removing the major parts”.***
- ***If there are wire connections from the Main board and Mechanism assemblies to the other major parts, be sure to remove them (including wires connected to the major parts) first before performing step (2).***
- ***When carrying out diagnosis and repair of the Main board assembly in the “Service position”, be sure to ground both the Main board and Mechanism assemblies. If they are improperly grounded, there may be noise on the playback picture or FDP counter display may move even when the mechanism is kept in an inoperative status.***
- ***In order to diagnose the playback or recording of the cassette tape, set the Mechanism assembly to the required mode before placing it upside down. If the mechanism mode is changed (including ejection) while it is in an upside down position the tape inside may be damaged.***
- ***For some models, the mechanism and board assemblies are attached by connectors only. When carrying out a diagnosis or repair of the boards in the “Service position”, make sure that the connectors are not disconnected.***

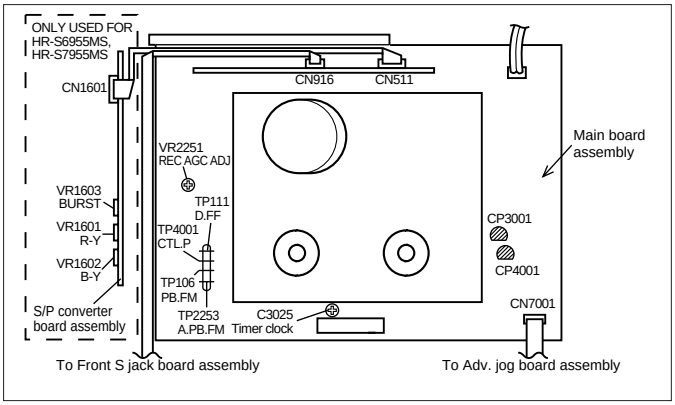


Fig. 1-4-1a

1.5 Jig RCU mode

This unit uses the following two modes for receiving remote control codes.

1) User RCU mode : Ordinary mode for use by the user.
2) Jig RCU mode : Mode for use in production and servicing.

When using the Jig RCU, it is required to set the VCR to the Jig RCU mode (the mode in which codes from the Jig RCU can be received). As both of the above two modes are stored in the EEPROM, it is required to set the VCR back to the User RCU mode each time that an adjustment is made or to check that the necessary operations have been completed. These modes can be set by the operations described below.

1.5.1 Setting the Jig RCU mode

(1) Unplug the power cord plug from the power outlet.
(2) Press and hold the “REC” and “PAUSE” buttons on the VCR simultaneously, while plugging the power cord plug into the power outlet.
When the VCR is set to the Jig RCU mode, the symbols (“ : ”) in the time display of the FDP are turned off.

1.5.2 Setting the User RCU mode

(1) Turn off the power.
(2) Press the “REC” and “PAUSE” buttons of the VCR simultaneously. Alternatively, transmit the code “80” from the Jig RCU.

1.6 Mechanism service mode

This model has a unique function to enter the mechanism into every operation mode without loading of any cassette tape. This function is called the “Mechanism service mode”.

1.6.1 How to set the “Mechanism service mode”

(1) Set the VCR to the Jig RCU mode (the mode in which codes from the Jig RCU can be received).
(2) Transmit the code “E5” from the Jig RCU.
(3) Release the lug of the Cassette holder and then slide the Cassette holder toward the direction where the Cassette holder is loaded by manually.
(4) The cassette holder lowers and, when the loading has completed, the mechanism enters the desired mode.
When the VCR is set to the Mechanism service mode, the symbols (“Timer”) in the FDP (LED) are blinked.

1.6.2 How to exit from the "Mechanism service mode"

(1) Unplug the power cord plug from the power outlet.

1.7 Maintenance and inspection

1.7.1 Cleaning

Regular cleaning of the transport system parts is desirable but practically impossible. So make it a rule to carry out cleaning of the tape transport system whenever the machine is serviced.
When the video head, tape guide and/or brush get soiled, the playback picture may appear inferior or at worst disappear, resulting in possible tape damage.

Note:

- ***Absolutely avoid sweeping the upper drum vertically as this will cause damage to the video head.***

(1) When cleaning the upper drum (especially the video head), soak a piece of closely woven cloth with alcohol and while holding the cloth onto the upper drum by the fingers, turn the upper drum counterclockwise.
(2) To clean the parts of the tape transport system other than the upper drum, use a piece of closely woven cloth or a cotton swab soaked with alcohol.
(3) After cleaning, make sure that the cleaned parts are completely dry before using the cassette tape.

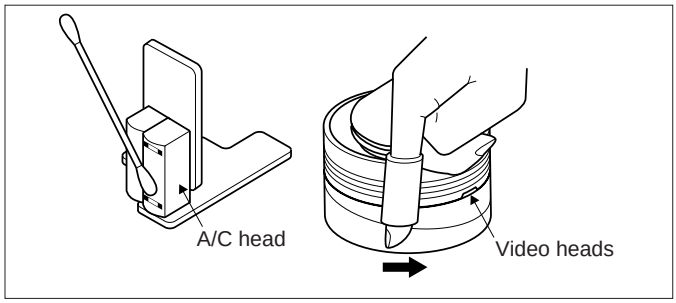


Fig. 1-7-1a

1.7.2 Lubrication

With no need for periodical lubrication, you have only to lubricate new parts after replacement. If any oil or grease on contact parts is soiled, wipe it off and newly lubricate the parts.

Note:

- ***See the "mechanism assembly" diagram of the "parts list" for the lubricating or greasing spots, and for the types of oil or grease to be used.***

1.7.3 Suggested servicing schedule for main components

The following table indicates the suggested period for such service measures as cleaning, lubrication and replacement. In practice, the indicated periods will vary widely according to environmental and usage conditions. However, the indicated components should be inspected when a set is brought for service and the maintenance work performed if necessary. Also note that rubber parts may deform in time, even if the set is not used.

System	Parts name	Operation hours	
		1000H	2000H
Tape transport	Drum assembly	C,X	X
	A/C head	C,X	C,X
	Pinch roller arm assembly	C	C
	Full erase head	C	C
	Tension arm assembly	C	C
	Capstan motor (Shaft)	C	C
	Guide arm assembly	C	C
Drive	Capstan motor		X
	Capstan brake assembly		X
	Main brake assembly		X
	Belt (Capstan)	X	X
	Loading motor		X
	Clutch unit		X
	Worm gear		X
	Control plate		X
Other	Rotary encoder		X

C : Cleaning
X : Inspection or Replacement if necessary

1.8 Servicing items related to video navigation

The video navigation function built into this unit works by storing the video navigation data in the internal EEPROM and writing data in the cassette tape simultaneously.
The video navigation data stored in the EEPROM cannot be copied to another EEPROM. Therefore, when the circuit board mounting the EEPROM is replaced, the original EEPROM should be mounted on the new board. This will make the user's video navigation data usable with the new circuit board after replacement. However, the user's data cannot be restored if the EEPROM on the original circuit board is damaged.

Note:

- **If the circuit board mounting the EEPROM or the EEPROM alone has been replaced, it is required to perform confirmation/re-adjustment on all of the adjustment items using the EVR as well as those which are adjusted by transmitting adjustment codes from the Jig RCU.**

SECTION 2
MECHANISM

2.1 Before disassembling

2.1.1 Notes

This model's mechanism relates closely to the rotary encoder and system control circuit (the rotary encoder is meshed with the control cam).
The system control circuit detects the mechanism condition using the rotary encoder's phase (internal switch phase). Therefore, the parts such as the rotary encoder, control plate, loading gear and control cam need to be installed correctly in order for the mechanism to operate properly. (For the mechanism phase adjustment, refer to the installation of each part.)

- For the disassembly procedure of the major parts of the main unit and notes, refer to the "section 1 disassembly".
- Before using a soldering iron, be sure to disconnect the power plug from the AC outlet.
- Do not touch any of the adjustment points until a defect position is specified.
- When plugging or unplugging the connector, be sure not to damage the wire.
- Be sure the springs are hooked all the way around and in the correct direction.
- When performing repairs, take care not to damage a catch, etc.

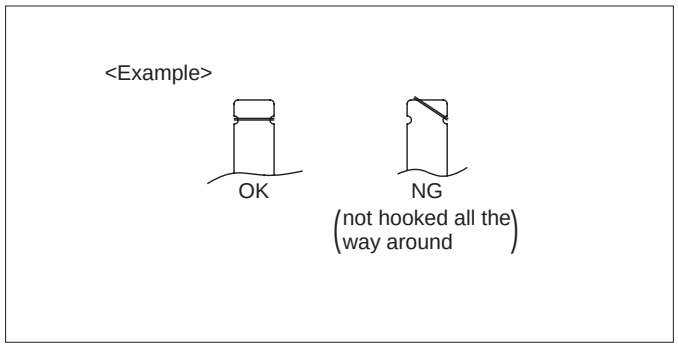


Fig. 2-1-1a

2.1.2 Mechanism operation check

When the mechanism is operated without a cassette loaded, operate the mechanism in the mechanism service mode. (Refer to the "section 1 disassembly".)

2.1.3 Setting the mechanism assembling mode

The mechanism-assembling mode is provided with this mechanism. When disassembling and assembling, it is required to engage this mode.
Set the mode by adopting the following procedures.

(1) Remove the mechanism assembly using the disassembling procedure.
(2) Turn gear (a) of the loading motor manually to set the mechanism assembly to the eject end mode. Make sure that the main deck is connected to the guide hole (a) of the drive lever and the seal (a) of the main deck is connected to the mark "E" of the control plate. This condition is called the mechanism-assembling mode.

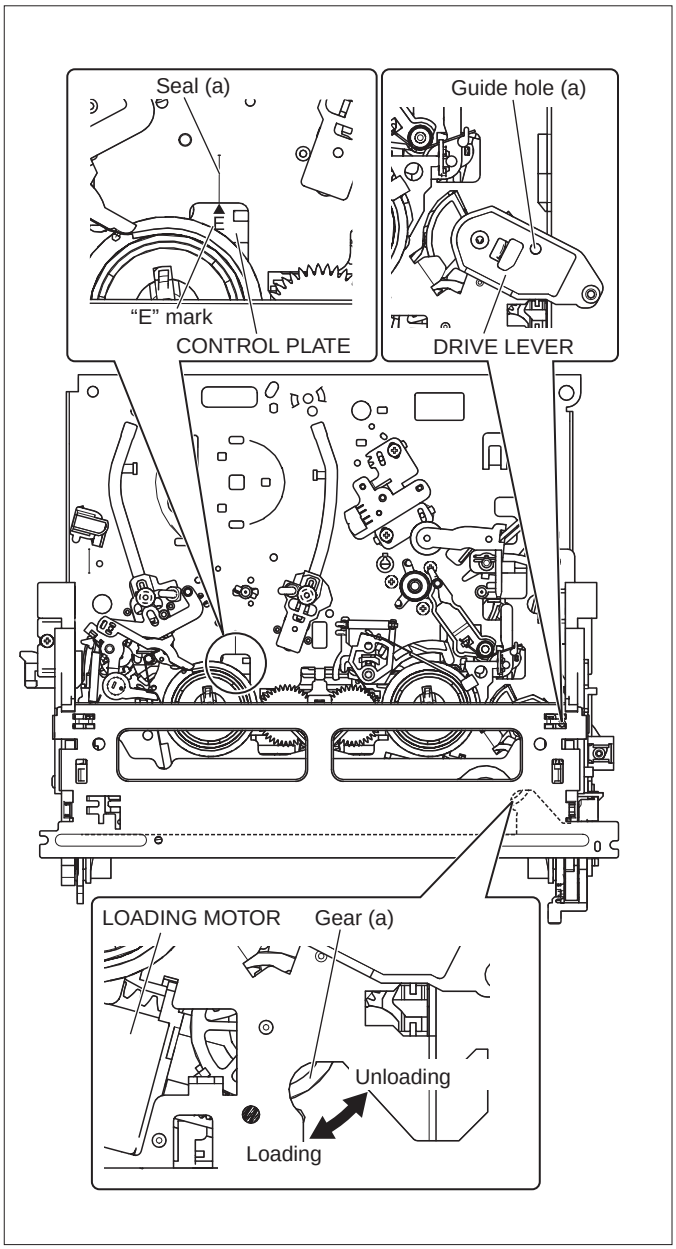


Fig. 2-1-3a

2.1.4 Layout of the main mechanism parts

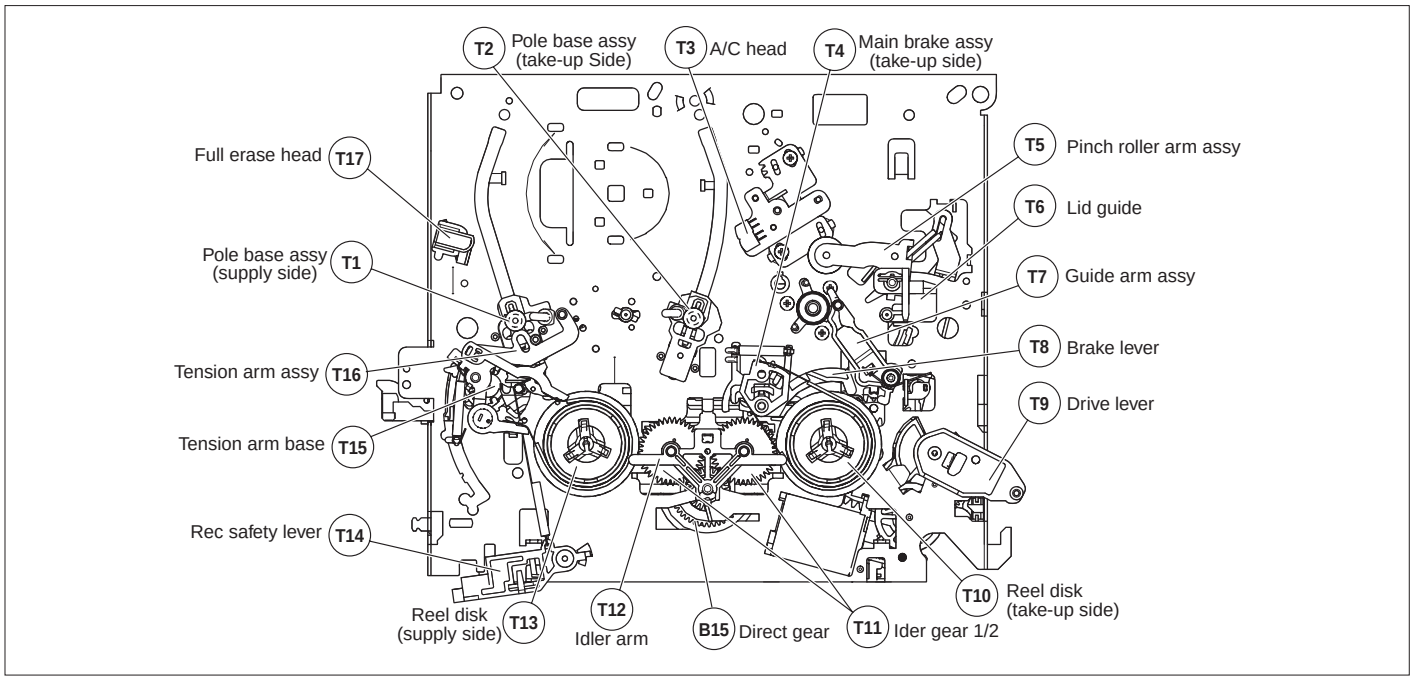

T2 Pole base assy (take-up Side)
T3 A/C head
T4 Main brake assy (take-up side)
T5 Pinch roller arm assy
T6 Lid guide
T7 Guide arm assy
T8 Brake lever
T9 Drive lever
T10 Reel disk (take-up side)
T11 Ider gear 1/2
B15 Direct gear
T12 Idler arm
T13 Reel disk (supply side)
T14 Rec safety lever
T15 Tension arm base
T16 Tension arm assy
T17 Full erase head
T1 Pole base assy (supply side)

Fig. 2-1-4a

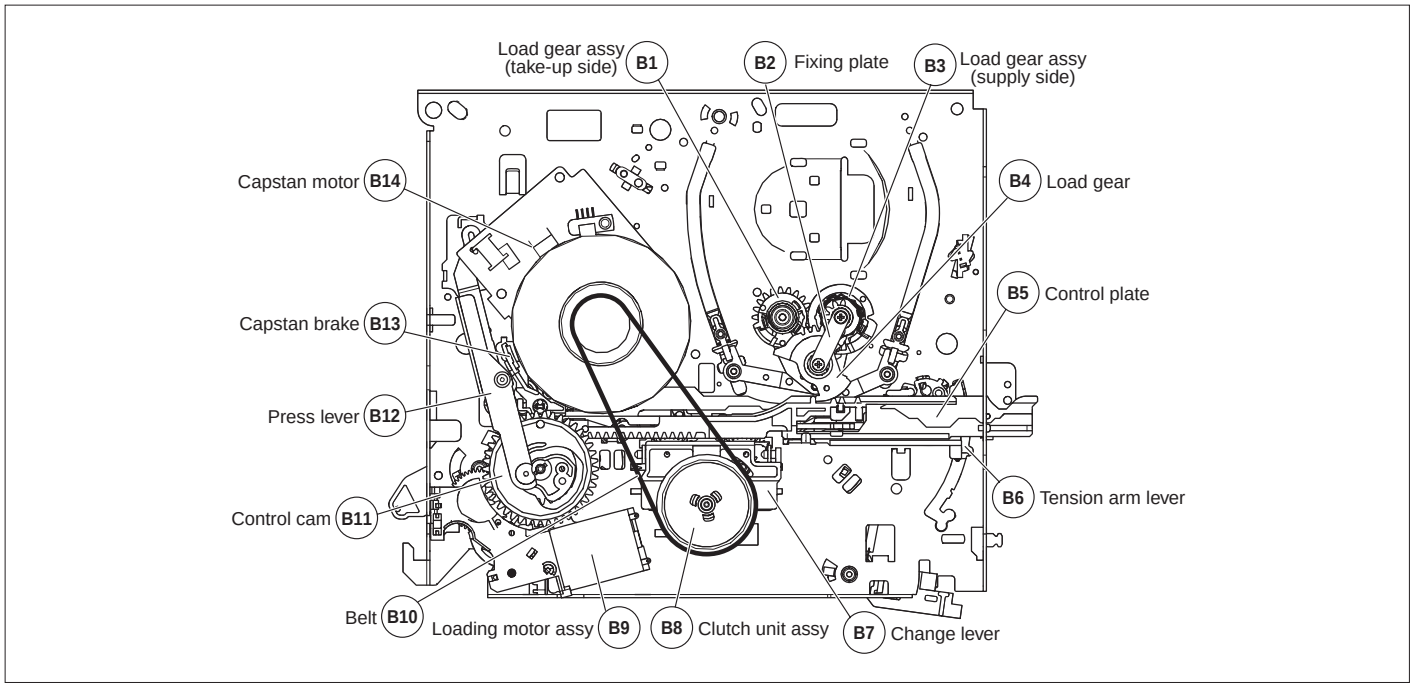


Fig. 2-1-4b

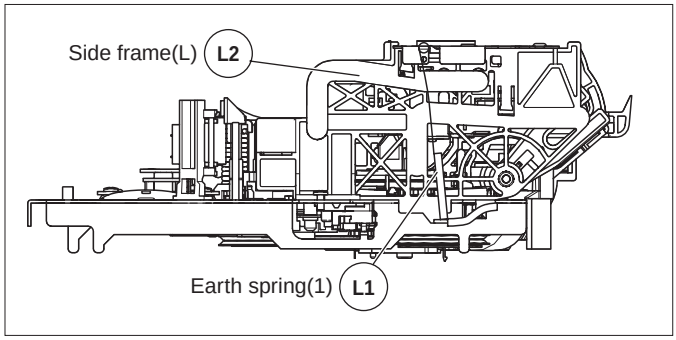


Fig. 2-1-4c

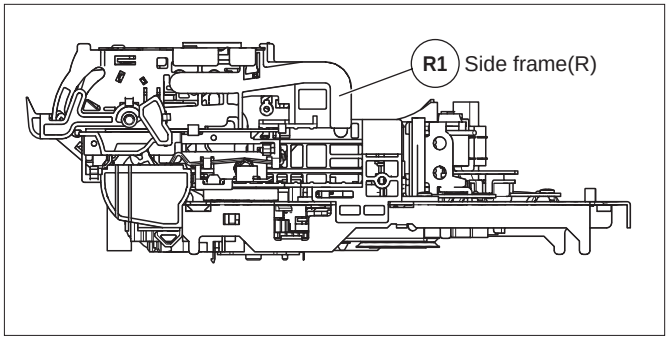


Fig. 2-1-4d

2.1.5 Disassembling procedure table

This table shows the order of parts removal when replacing each part. For replacement, remove the parts in the order of 1 to 13 shown in the table and install the parts in the reverse order.
The symbol number before each part name shows the number in the figure “Layout of the main mechanism parts”. T and B on the right of each part name show the side from which the part should be removed (T: From the front of the mechanism, B: From the rear of the mechanism, T/B: From both sides).

	Symbols and numbers			L1	-	-	L2	-	R1	T6	T12	T11	T4	T10	T16	T15	B12	B11	B13	B9	B10	B2	B4	B3	B1	B5	B8	B15
Symbols and numbers	Removal parts / (Reference items) Replacement parts	Front(T)/Back(B) of mechanism	Number of removal steps	Earth spring (1)	Top frame	Cassette holder	Side frame (L)	Drive arm	Side frame (R)	Lid guide	Idler arm	Idler gear 1/2	Main brake (T)	Reel disk (T)	Tension arm	Tension arm base	Press lever	Control cam	Capstan brake assy	Loading motor assy	Belt	Fixing plate	Load gear	Loading gear assy (S)	Loading gear assy (T)	Control plate	Clutch unit	Direct gear
L1	2.1 Earth spring (1)	T	1																									
-	2.1 Top frame	T	2	1																								
-	2.1 Cassette holder	T	3	1	2																							
L2	2.1 Side frame (L)	T	3	1	2																							
-	2.1 Drive arm	T	5	1	2	3	4																					
R1	2.1 Side frame (R)	T	3	1	2																							
T3	2.2 A/C head	T	1																									
T17	- FE head	T/B	1																									
T7	2.3 Guide arm assy	T	1																									
T6	2.3 Lid guide	T	1																									
T5	2.3 Pinch roller arm assy	T	2							1																		
T12	2.4 Idler arm	T	4	1	2	3																						
T11	2.4 Idler gear 1/2	T	5	1	2	3					4																	
T4	2.5 Main brake assy (T)	T	6	1	2	3					4	5																
T10	2.5 Reel disk (T)	T	7	1	2	3					4	5	6															
T16	2.5 Tension arm	T	6	1	2	3					4	5																
T13	2.5 Reel disk (S)	T	7	1	2	3					4	5			6													
T15	2.5 Tension arm base	T	7	1	2	3					4	5			6													
-	- T-up head	T	8	1	2	3					4	5			6	7												
-	- T-up lever	T	8	1	2	3					4	5			6	7												
T8	2.5 Brake lever	T	8	1	2	3					4	5	6	7														
T14	2.5 Rec safety lever	T	7	1	2	3	4	5	6																			
B12	2.6 Press lever	B	1																									
B11	2.6 Control cam	B	2														1											
B13	2.6 Capstan brake assy	B	3														1	2										
B9	2.6 Loading motor assy	B	4														1	2	3									
B10	2.7 Belt	B	1																									
B14	2.7 Capstan motor	T/B	2																		1							
-	- Wire holder	T/B	1																									
B2	2.7 Fixing plate	B	1																									
B4	2.7 Load gear	B	2																			1						
B3	2.7 Loading gear assy(S)	B	3																			1	2					
B1	2.7 Loading gear assy(T)	B	4																			1	2	3				
T1	- Pole base assy(S)	T/B	4																			1	2	3				
T2	- Pole base assy(T)	T/B	5																			1	2	3	4			
-	- Load gear base	B	5																			1	2	3	4			
B5	2.7 Control plate	B	6														1	2			3	4	5					
T9	- Drive lever	T/B	10	1	2	3	4	5	6								7	8		9								
B8	2.8 Clutch unit	B	2																		1							
B15	2.8 Direct gear	B	3																		1						2	
B7	- Change lever	T/B	6								1	2									3						4	5
B6	- Tension arm lever	T/B	14	1	2	3					4	5			6	7	8	9			10	11	12			13		

2.2 Replacement of the main mechanism parts

2.2.1 Cassette holder

2.2.1.1 Removal

(1) Remove the screws (a) and (b).
(2) Hold up the top frame, cassette holder assembly, drive arm assembly and side frames (L/R) all together and remove them by releasing the hooks (a) and (b).

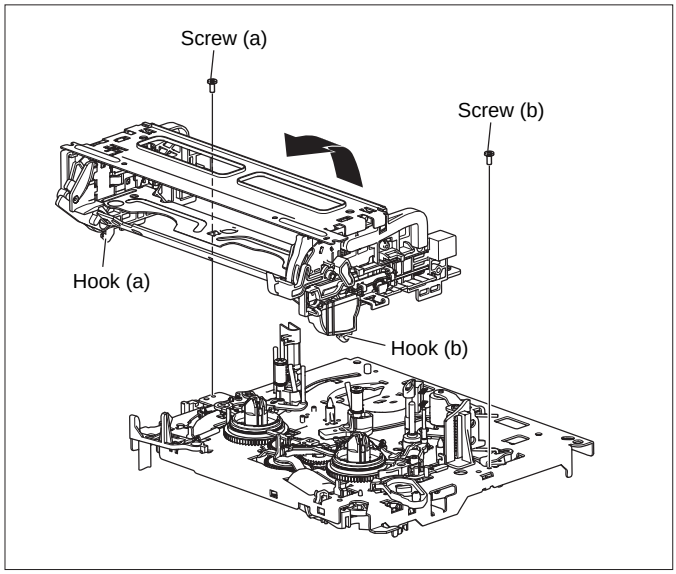


Fig. 2-2-1a

2.2.1.2 Installation (phase adjustment)

(1) Turn gear (a) of the loading motor assembly so that the main deck connects to the guide hole (a) of the drive lever.
(2) Hook the main deck to hooks (a) and (b).
(3) Place the projection of the drive lever to section (a) of the side frame (R) and install the cassette holder to the main deck. Make sure that the bosses of the side frame (L/R) connect with the holes (a) and (b) of the main deck.
(4) Secure screws (a) and (b).

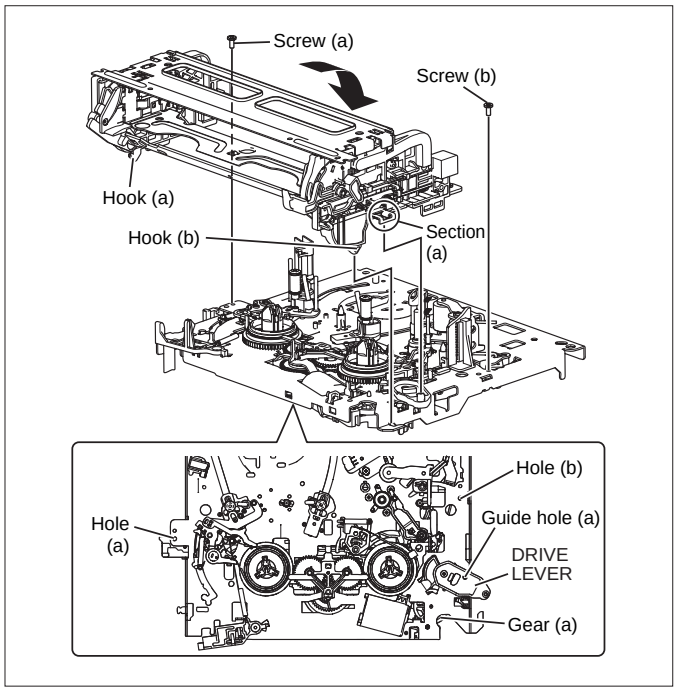


Fig. 2-2-1b

2.2.1.3 Disassembling

(1) Release hook (a) to remove the earth spring (1) from the top frame.
(2) Release the catches (a) and (b) and pull the top frame in the direction shown by the arrow (a) to remove it.
(3) Pull out the side frame (R).
(4) Pull out the cassette holder assembly and drive arm assembly from the side frame (L).

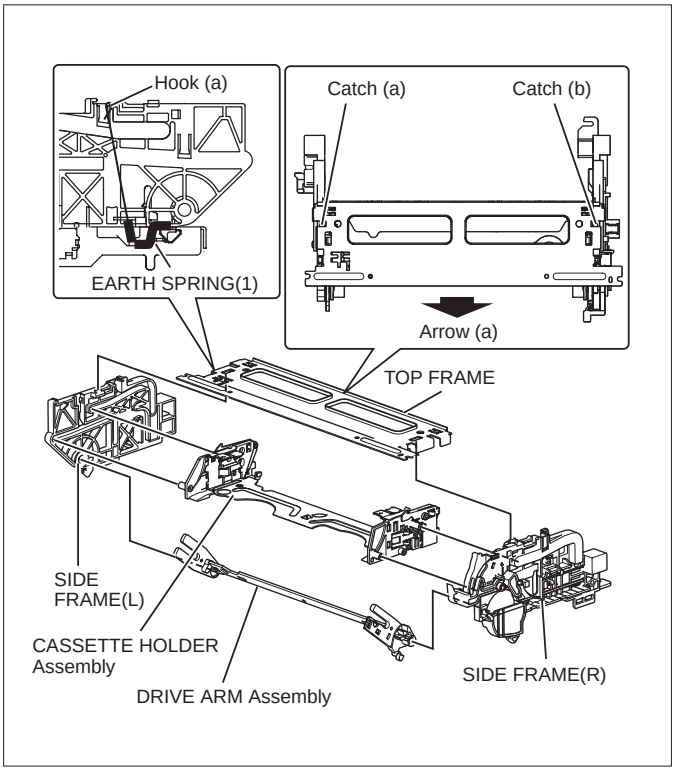


Fig. 2-2-1c

2.2.1.4 Assembling (installation and phase adjustment)

(1) Turn gear (a) of the loading motor assembly so that the main deck connects to the guide hole (a) of the drive lever.
(2) Place the projection of the drive lever on section (a) of the side frame (R) and install the side frame (R) to the main deck.
(3) Secure screw (b).
(4) Place section (b) of the drive arm on the gear of the side frame (R). Make sure that the pin of the door opener connects with section (c) of the drive arm.
(5) Place the drive arm on section (d) of the side frame (L) and install the side frame (L) on the main deck. Be sure to connect the earth spring (1) to the side frame (L).
(6) Secure screw (a).
(7) Turn gear (a) of the loading motor assembly until the drive arm is vertical.
(8) Place the slit of the side frame (L/R) at the foot of the cassette holder assembly and install the cassette holder.
(9) Place the top frame on the position guide (a) of the side frame (L/R) and push it in the direction shown by the arrow (a) for installation.
(10) Hook the earth spring (1) to the hook (a) of the top frame.

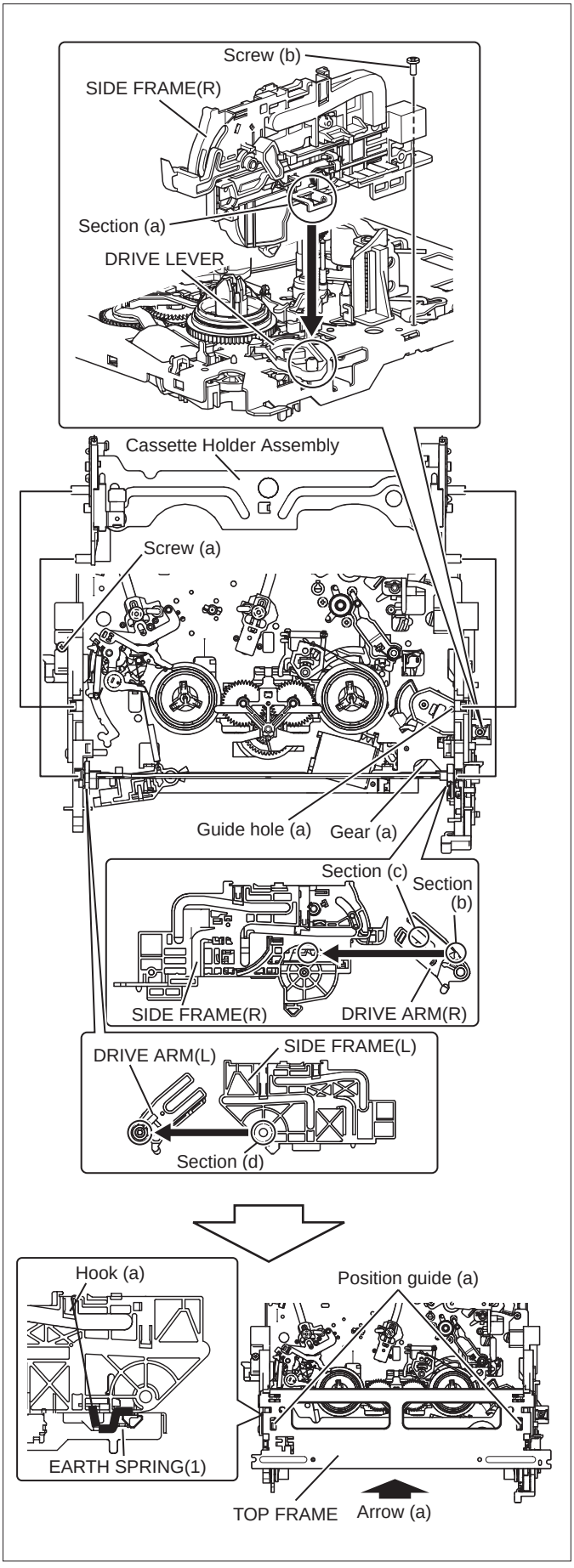


Fig. 2-2-1d

2.2.2 A/C head

2.2.2.1 Removal

(1) Remove screws (a) and (b).
(2) Remove the A/C head together with the head base.
(3) Remove the screws (c), (d) and (e) to remove the spring (a) and the A/C head from the Head base.

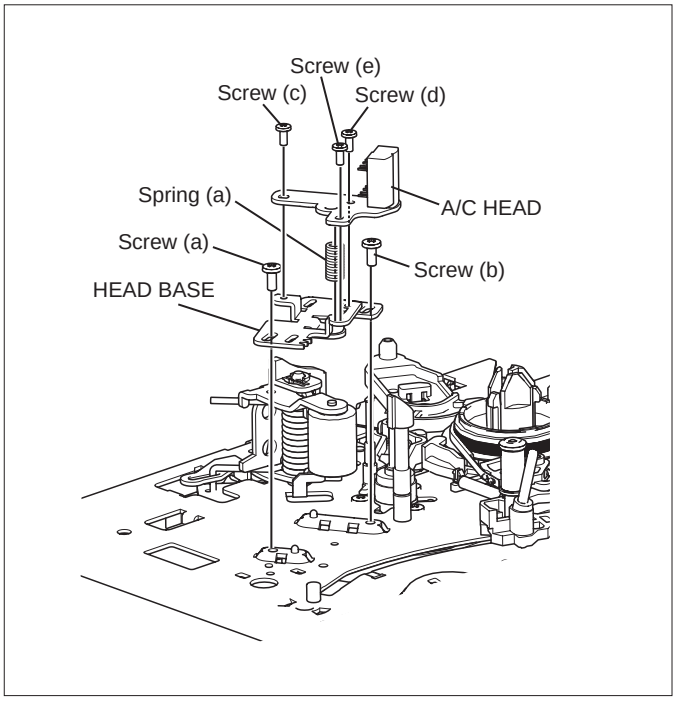


Fig. 2-2-2a

2.2.2.2 Installation (initial setting)

To install the A/C head to the head base, secure the screws in the order of (c), (d) and (e). To make the adjustment easy, temporarily elevate the A/C head.

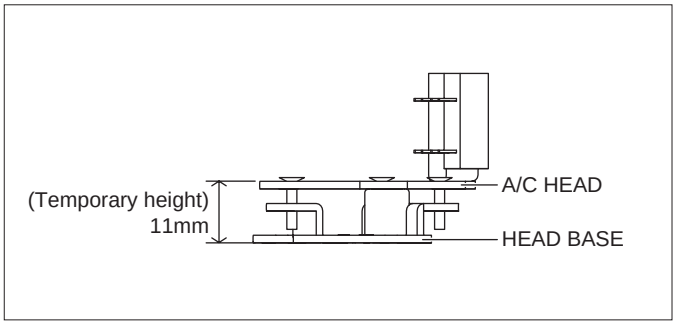


Fig. 2-2-2b

2.2.3 Guide arm, pinch roller arm

2.2.3.1 Removal

(1) Remove the spring (a) from the hook (a) and detach the guide arm assembly.
(2) Release the catch (a) to remove the lid guide.
(3) Remove the spring (b) from the hook (b) and detach the pinch roller arm assembly.

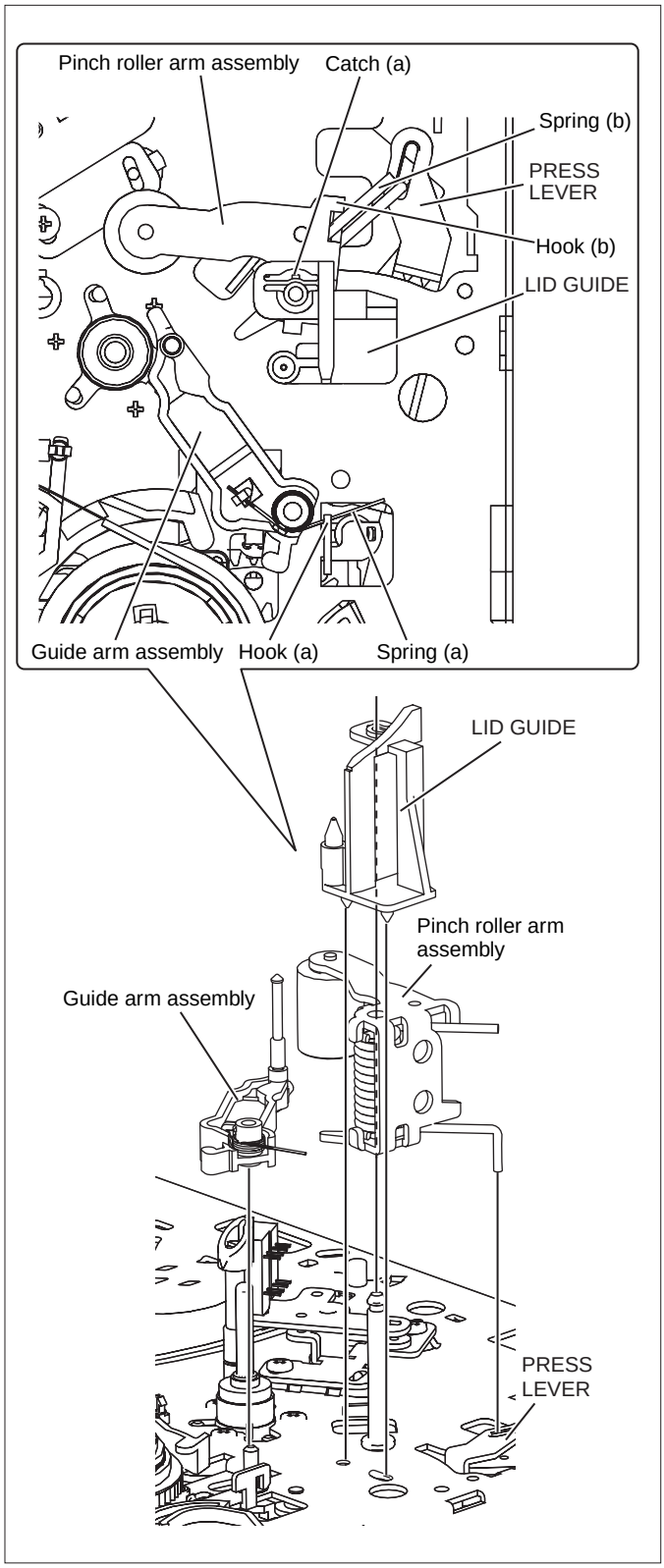


Fig. 2-2-3a

2.2.4 Idler arm, idler gear 1/2

2.2.4.1 Removal

(1) Release the catches (a) and (b) to detach the idler arm.
(2) Detach the idler gear 1/2.

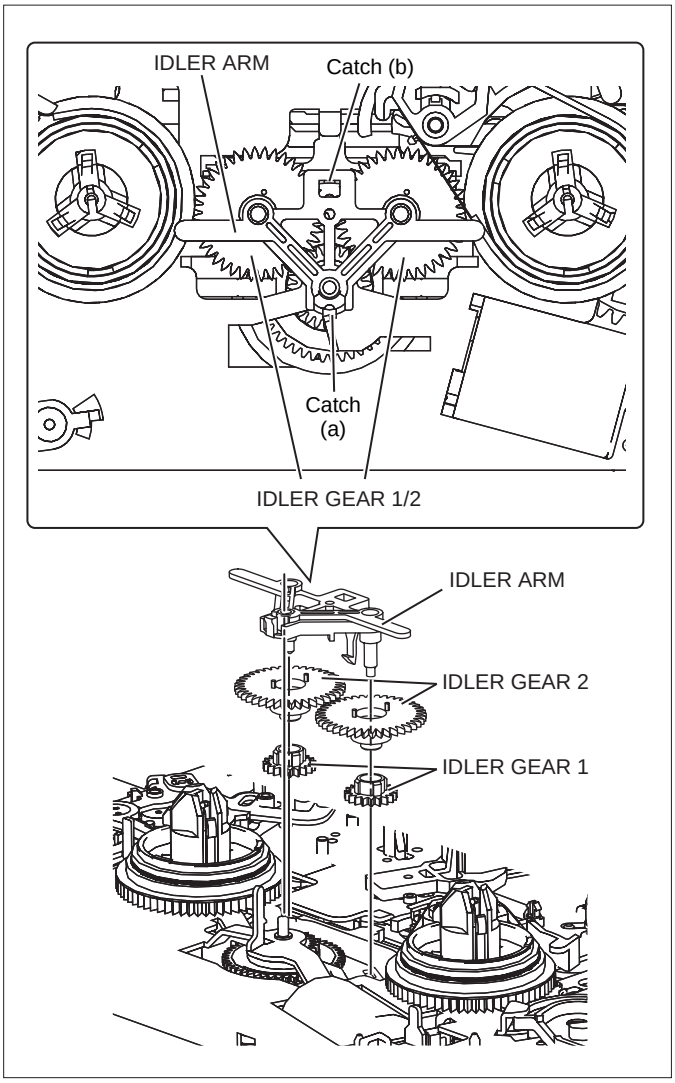


Fig. 2-2-4a

2.2.5 Main brake (T), brake lever, tension arm, reel disk (S/T), Rec safety lever

2.2.5.1 Removal

(1) Remove the spring (a). (Detach section (b) of the spring (a).)
(2) Release the catch (a) to detach the main brake (T).
(3) Release the catch (b) to detach the reel disk (T) and the spacer.
(4) Lift up and turn section (b) of the brake lever counterclockwise to remove the brake lever.
(5) Remove the spring (b) from the hook (a).
(6) Release the catch (c) to detach the tension arm.
(7) Release the catch (d) to detach the reel disk (S) and the spacer.
(8) Remove the spring (c) from the hook (b).
(9) Turn the tension arm base in the direction shown by arrow (a) to release catch (e). Place the projections of the tension arm base to the holes (a) to detach the tension arm base.
(10) While releasing the catch (f), turn the Rec safety lever counterclockwise to remove it.

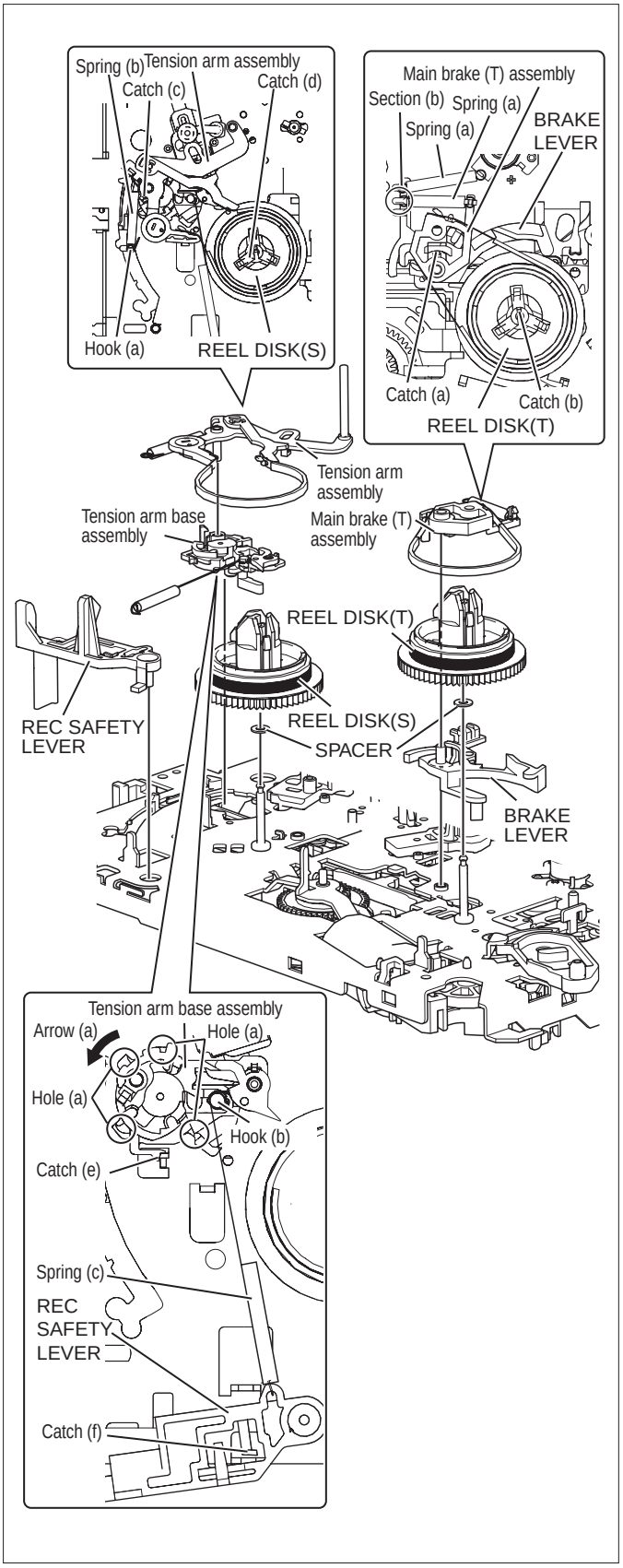


Fig. 2-2-5a

2.2.6 Press lever, control cam, capstan brake assembly, loading motor assembly

2.2.6.1 Removal

(1) Remove the slit washer (a) to detach the press lever.
(2) Release the slit washer (b) to detach the control cam.
(3) Release the catch (b) to detach the capstan brake assembly.
(4) Remove the solder (a).
(5) Remove the screw (a).
(6) Release the catches (c) and (d) to detach the loading motor assembly.

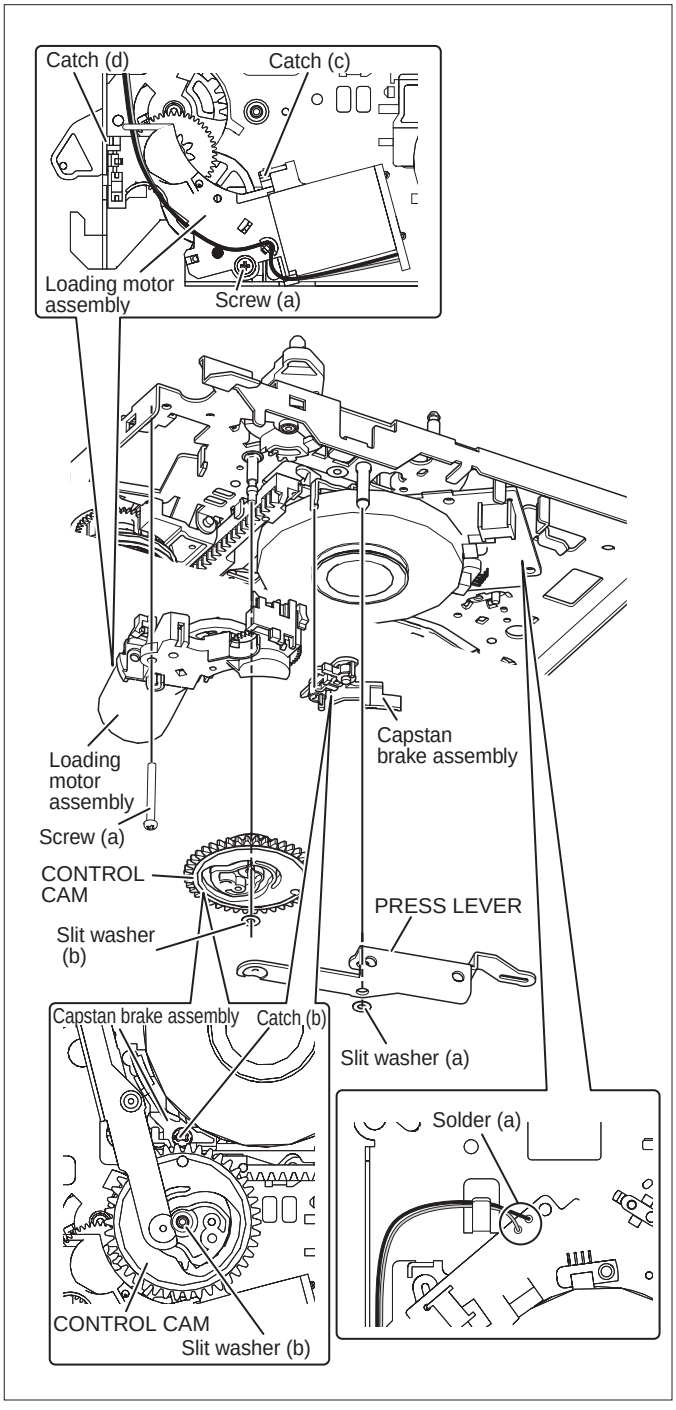


Fig. 2-2-6a

2.2.6.2 Installation (phase adjustment)

(1) Attach the loading motor assembly to the main deck.
(2) Secure the screw (a).
(3) Solder the wire to section (a).
(4) Arrange the wire along with the position guide (b).
(5) Attach the capstan brake assembly to the main deck.
(6) Place the main deck on the guide hole (a) of the control plate.
(7) Place the main deck on the guide hole (b) of the drive lever.
(8) Place the main deck no guide hole (c) of the control cam to install the control cam.
(9) Move the capstan brake in the direction shown by the arrow (a) to attach the press lever to the shaft (a). Make sure that the boss of the press lever fits in the control cam, and that the shaft (b) of the pinch roller arm assembly connects with the hole of the press lever.
(10) Attach slit washer (a) to shaft (a).

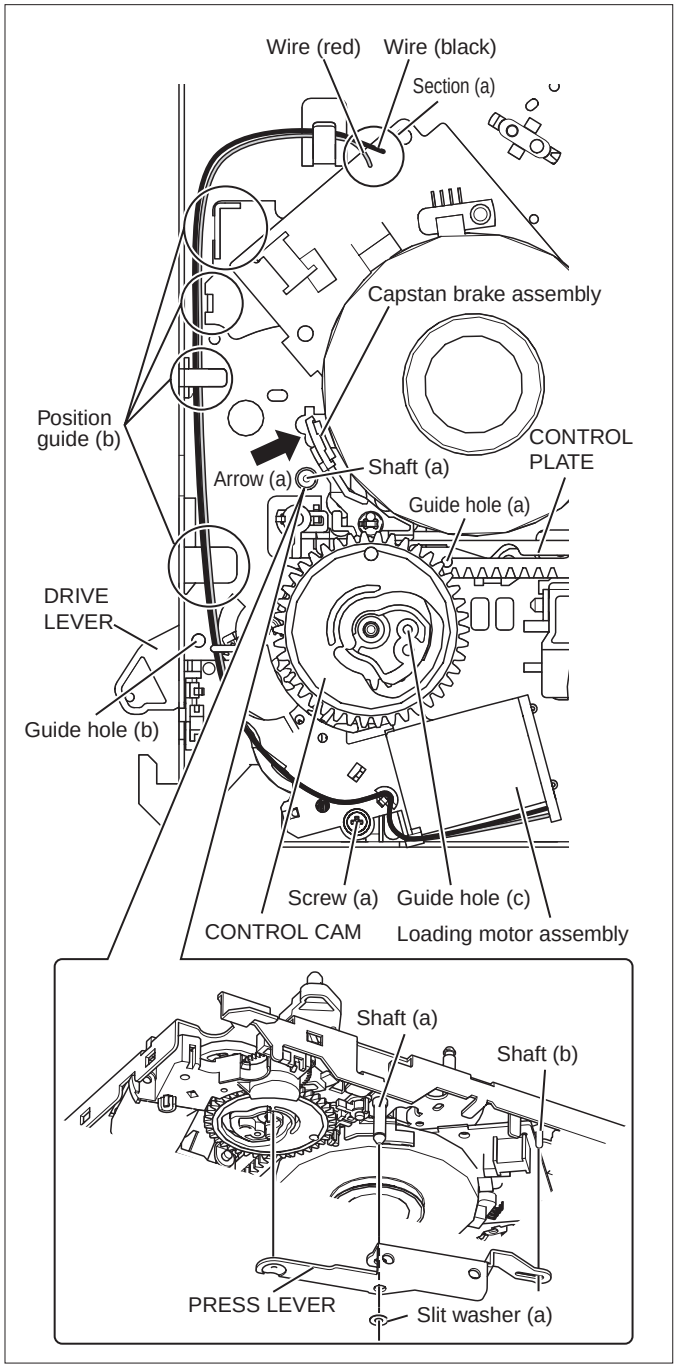


Fig. 2-2-6b

Note:

- **When replacing the worm bearing of the loading motor assembly, attach it according to the following specification. If worm bearing is not attached correctly, a mechanism noise may occur. (See Fig. 2-2-6c)**

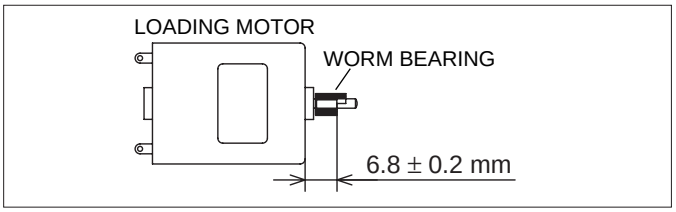


Fig. 2-2-6c

2.2.7 Capstan motor, load gear, control plate

2.2.7.1 Removal

(1) Detach the belt.
(2) Check that the FFC connector on the drum is disconnected.
(3) Release the catch (a) to remove the FFC wire.
(4) Remove the screws (a) to detach the capstan motor.
(5) Remove the screws (b) to detach the fixing plate.
(6) Release the catch (b) to detach the load gear.
(7) Turn the load gear (S/T) in the loading direction to detach it.
(8) Remove the control plate.

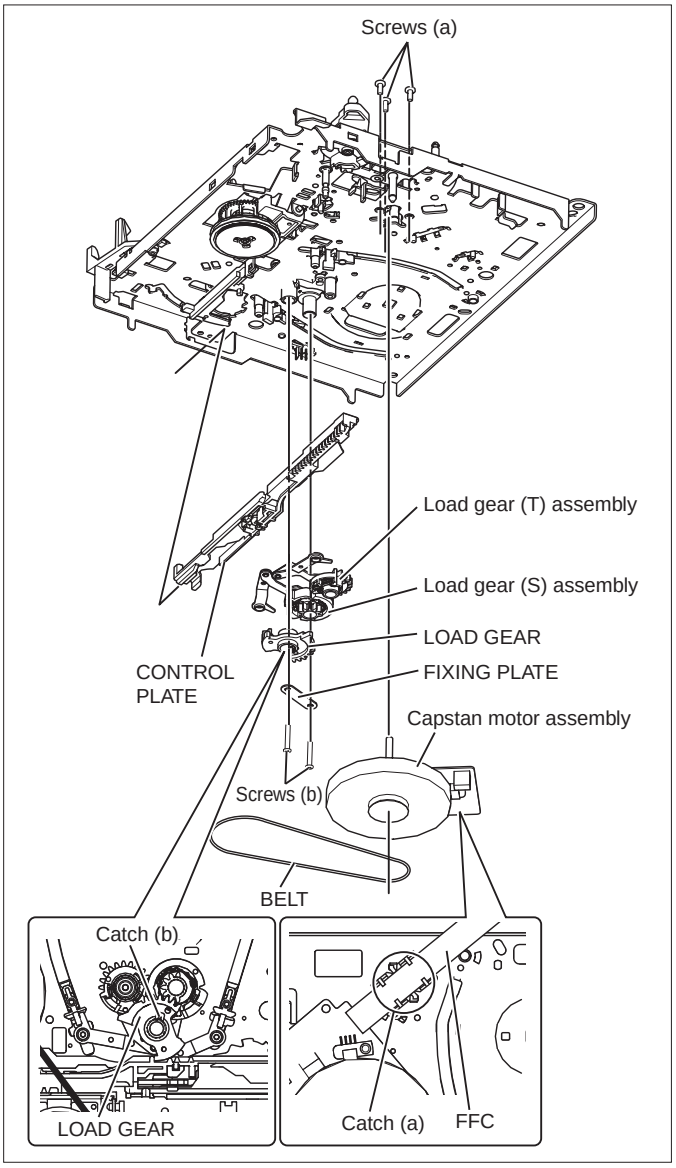


Fig. 2-2-7a

2.2.7.2 Installation (phase adjustment)

(1) Place the main deck on the guide hole (a) of the tension arm lever.
(2) Place the main deck on the guide hole (b) of the brake lever.
(3) Attach the control plate to align with the position guide (a).
(4) Place the hole (c) of the load arm (T) on the pole base (T) and the load gear (T) on the load gear base.
(5) Place the hole (d) of the load arm (S) on the pole base (S) and the load gear (S) on the load gear base. Be sure to align the guide mark (e) of the load gear (T) to that of the load gear (S).
(6) Turn the load gear (S/T) in the unloading direction to place the main deck on the guide hole (f) of the load gear (T).
(7) Place the main deck on the guide hole (g) of the control plate.
(8) Attach the load gear on the load gear base so that the control plate is placed on the edge (h) of the load gear.
(9) Place the fixing plate on the shaft of the load gear base and secure the screws (b).

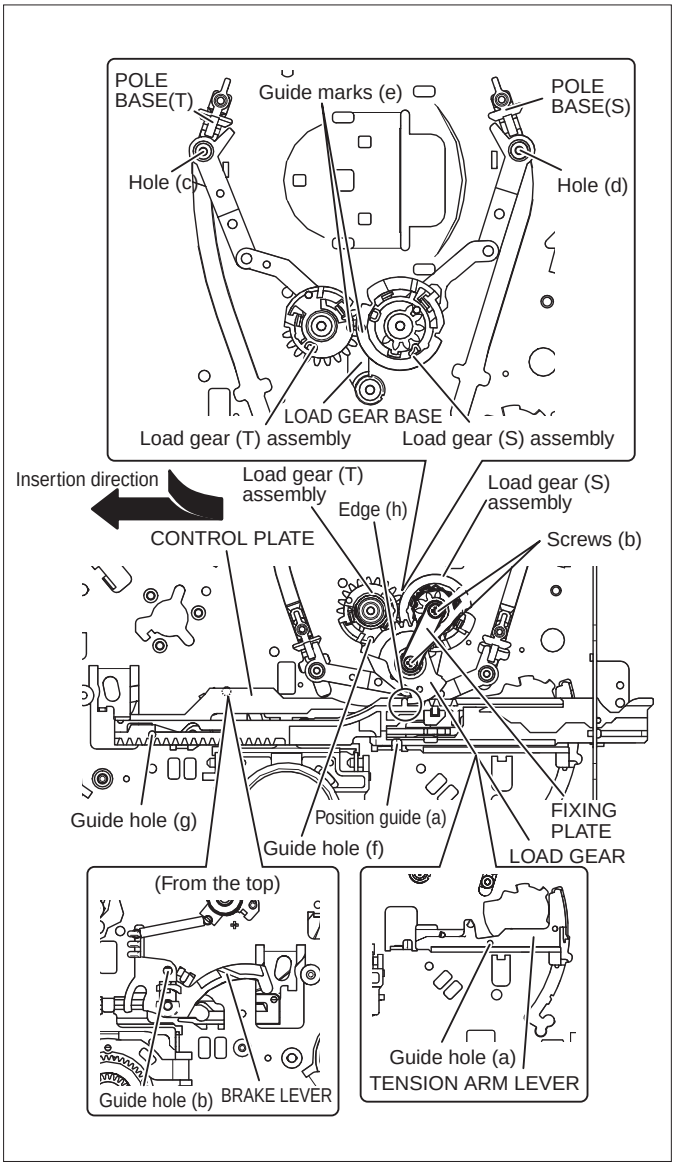


Fig. 2-2-7b

2.2.8 Clutch unit assembly, direct gear

2.2.8.1 Removal

(1) Remove the slit washer (a) to detach the clutch unit assembly.
(2) Remove the spring (a) and the direct gear.

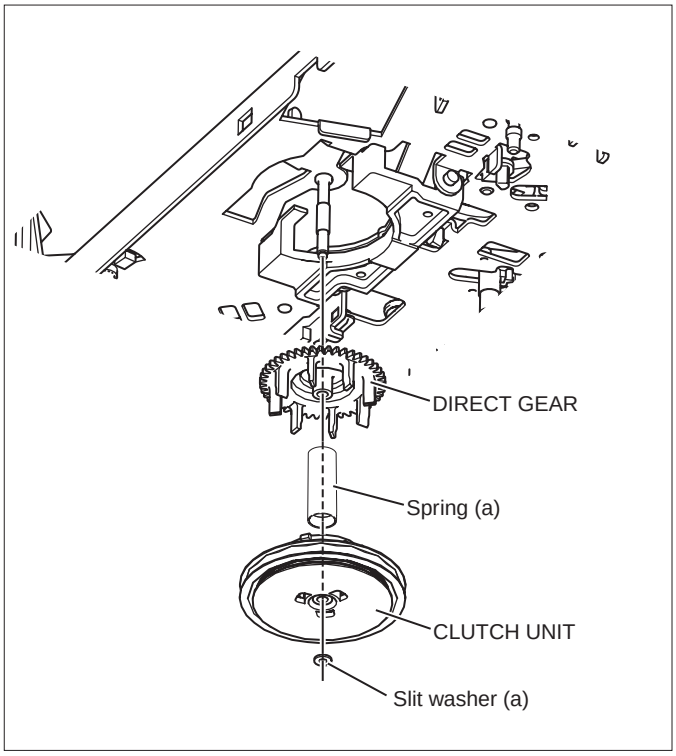
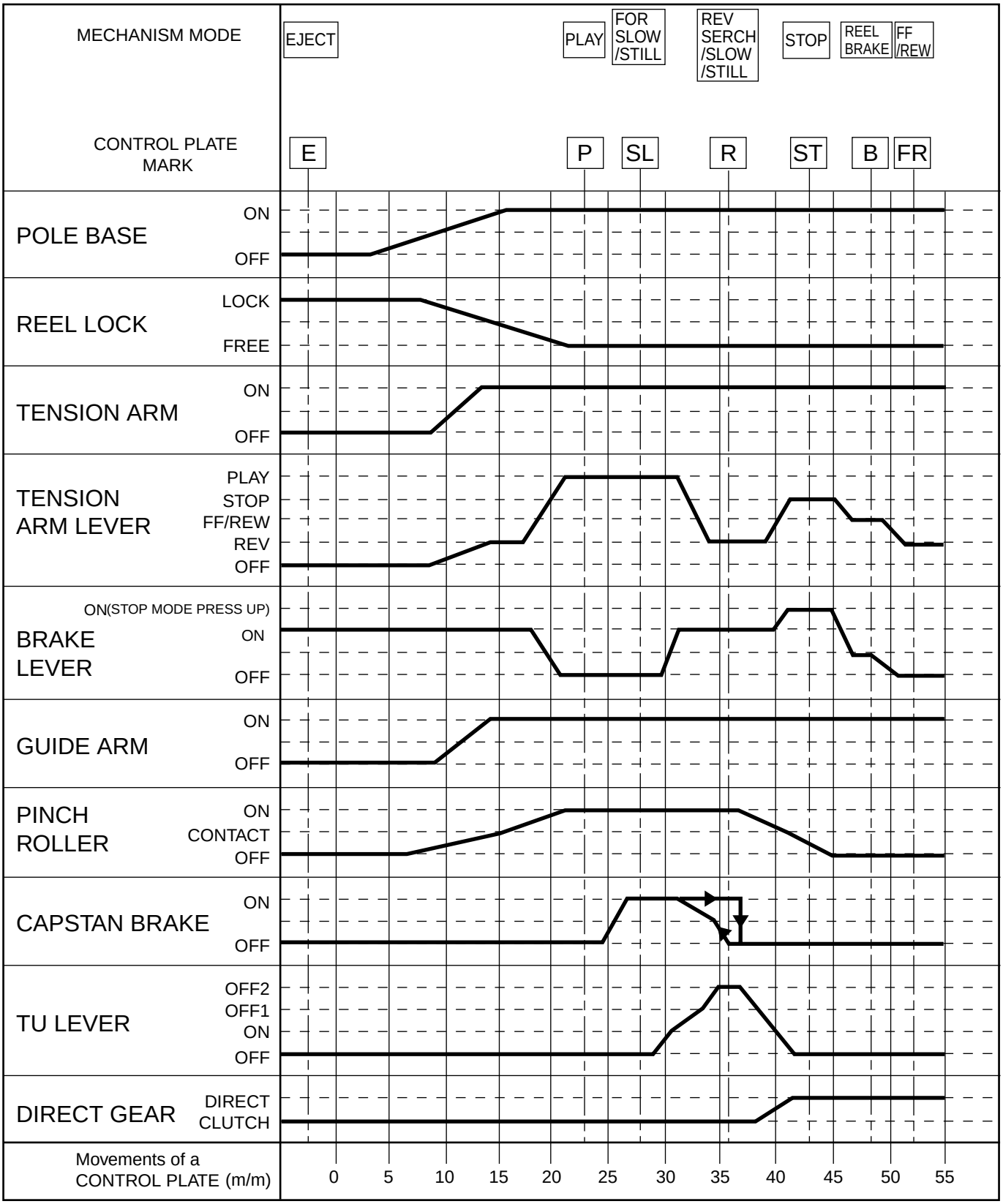


Fig. 2-2-8a

2.3 Mechanism timing chart



SECTION 3
ADJUSTMENT

3.1 Before adjustment

3.1.1 Precaution

- **The adjustments of this unit include the mechanism compatibility and electrical adjustments. During the performance of this work, be sure to observe the precautions for each type of adjustment.**
- **If there is a reference to a signal input method in the signal column of the adjustment chart, "Ext. S-input" means the Y/C separated video signal and "Ext. input" means the composite video signal input.**
- **Unless otherwise specified, all measuring points and adjustment parts are located on the Main board.**

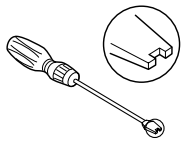
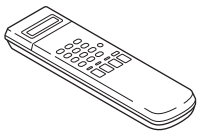
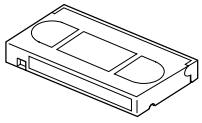
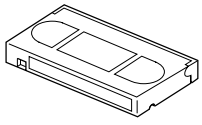
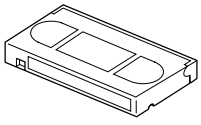
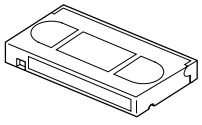
3.1.2 Required test equipments

- Color (colour) television or monitor
- Oscilloscope: wide-band, dual-trace, triggered delayed sweep
- Signal generator: RF / IF sweep / marker
- Signal generator: stairstep, color (colour) bar [PAL/SECAM]
- Recording tape
- Digit-key remote controller(provided)

3.1.3 Required adjustment tools

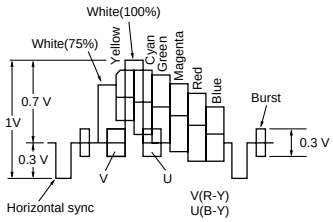
○ : Used – : Not used

	Machanism compatibility adjustment	Electrical adjustment
Roller driver	○	–
Jig RCU	–	○
Back tension cassette gauge	○	–
Alignment tape(MHPE)	○	○
Alignment tape(MHPE-L)	○	○

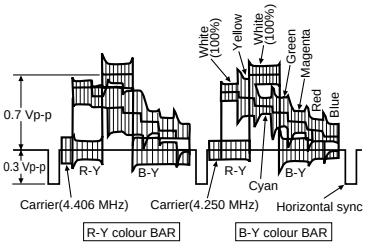
Roller driver PTU94002	Jig RCU PTU94023B	Back tension cassette gauge PUJ48076-2
		
Alignment tape (SP, stairstep, PAL) MHPE	**Alignment tape (LP, stairstep, PAL) MHPE-L**	**Alignment tape (EP, stairstep, NTSC) MHP-L**
		

3.1.4 Color (colour) bar signal, color (colour) bar pattern

● Color(colour) bar signal [PAL] **● Color(colour) bar pattern [PAL]**



● Colour bar signal [SECAM] **● Colour bar pattern [SECAM]**



3.1.5 Switch settings

When adjusting this unit, set the VCR mode and switches as described below.

- **When using the Jig RCU, it is required to set the VCR to the Jig RCU mode (the mode in which codes from the Jig RCU can be received). (See SECTION 1 DISASSEMBLY.)**

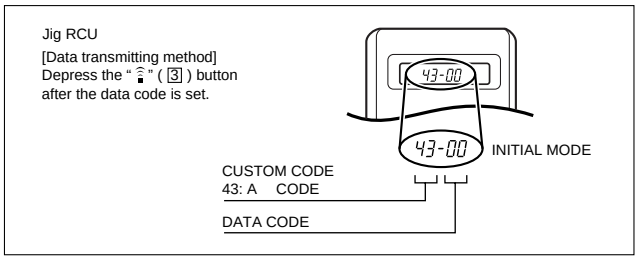


Fig. 3-1-4a Jig RCU [PTU94023B]

- **Set the switches as shown below unless otherwise specified on the relevant adjustment chart. The switches that are not listed below can be set as desired.**
  If the VCR is not equipped with the functions detailed below, setup is not required.

AUTO PICTURE/VIDEO CALIBRATION/ B.E.S.T./D.S.P.C.	OFF
PICTURE CONTROL/SMART PICTURE	NORMAL/NATURAL
VIDEO STABILIZER	OFF
TBC	ON
Digital 3R	ON
VIDEO NAVIGATION/TAPE MANAGER	OFF
BLUE BACK	OFF

3.1.6 Manual tracking mode (Auto tracking ON/OFF) setting

(1) In order to set to the manual tracking mode during tape playback, press the "SP/EP(LP)" button on the remote control unit.
  • Each press of the button switches the auto tracking ON or OFF.
  • When the auto tracking is OFF, the monitor screen displays "AT: OFF".
  • When the manual tracking mode is set, the tracking is placed at the center position.

(2) Press "channel +/-" to adjust the tracking manually.

3.1.7 EVR adjustment

Some of the adjustments require the adjustment performed by the EVR system. The main unit have EEPROMs for storing the EVR adjustment data and user setups.

Notes:

- ***In the EVR adjustment mode, the value is varied with the channel buttons (+, –). The adjusted data is stored when the setting mode changes (from PB to STOP, when the tape speed is changed, etc.). Take care to identify the current mode of each adjustment item when making an adjustment.***
- ***When changing the address setting in the EVR adjustment mode, use the Jig RCU or the remote controller having numeric keypad with which a numeric code can be directly input.***
  The remote control code of the Jig RCU corresponds to each of the digit keys on the remote controller as follows.

Digit-key	0	1	2	3	4	5	6	7	8	9
Code	20	21	22	23	24	25	26	27	28	29

- ***As the counter indication and remaining tape indication are not displayed FDP during the EVR adjustment mode, check them on the TV monitor screen.***
- ***When performing the EVR adjustment, confirm that the FDP indication is changed to the EVR mode, as shown below.***

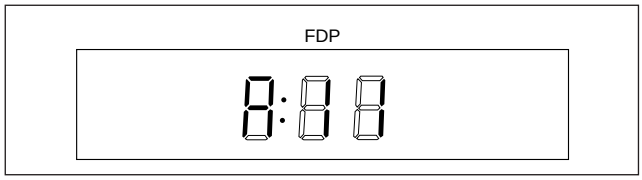


Fig. 3-1-7a EVR mode

3.2 Mechanism compatibility adjustment

Notes:

- ***Although compatibility adjustment is very important, it is not necessary to perform this as part of the normal servicing work. It will be required when you have replaced the A/C head, drum assembly or any part of the tape transport system.***
- ***To prevent damaging the alignment tape in the compatibility adjustment, prepare a cassette tape (for self-recording/playback), perform a test on it by transporting it and making sure that the tape is not bent by the tape transport mechanisms such as in the guide rollers.(See Fig.3-2-2a)***

3.2.1 Tension pole position

Notes:

- ***This adjustment must be performed every time the tension band is replaced.***

Signal	(A)	• Back tension cassette gauge [PUJ48076-2]
Mode	(B1)	• Play back position
	(B2)	• Eject end
Adjustment part	(F)	• Adjust pin [Mechansim assembly]
Specified value	(G)	• 25 - 51 gf•cm ($2.45 – 5 \times 10^{-3}$ Nm]

(1) Play back the back tension cassette gauge (A).
(2) Check that the indicated value on the left side gauge is within the specified value (G).
(3) If the indicated value is not within the specified value (G), perform the adjustment in a following procedure.(See Fig.3-2-1a.)
  1) Remove the top frame, cassette holder and side frames (L/R) all together. (See “section 2 mechanism”.)
  2) Rotate the loading motor gear to move the control plate so that the triangular stamping to the left of the “P” stamping is aligned with the stamping (a) on the main deck. This positioning is mode (B1).
  3) Adjust by turning the adjustment pin so that the tip of the tension arm is aligned with the stamping (b) on the main deck.
  4) Rotate the reel disk (S) by about one turn clockwise and make sure that the round hole of the adjustment pin is located in the “OK” range.
  If it is outside this range, restart the adjustment from the beginning.
  After completion of the adjustment, rotate the loading gear motor to return it to the mode (B2) position.

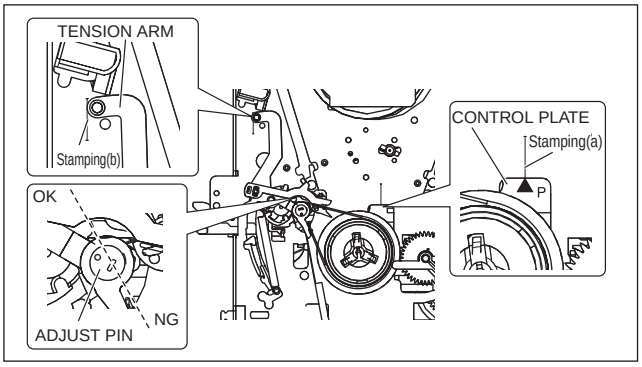


Fig. 3-2-1a

3.2.2 FM waveform linearity

Signal	(A1) (A2)	• Alignment tape(SP, stairstep, PAL) [MHPE] • Alignment tape(LP, stairstep, PAL) [MHPE-L]
Mode	(B)	• PB
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• TP106 (PB. FM)
External trigger	(E)	• TP111 (D.FF)
Adjustment part	(F)	• Guide roller [Mechanism assembly]
Specified value	(G)	• Flat V.PB FM waveform
Adjustment tool	(H)	• Roller driver [PTU94002]

(1) Play back the alignment tape (A1).
(2) Apply the external trigger signal to D.FF (E), to observe the V.PB FM waveform at the measuring point (D).
(3) Set the VCR to the manual tracking mode.
(4) Make sure that there is no significant level drop of the V.PB FM waveform caused by the tracking operation, with its generally parallel and linear variation ensured. Perform the following adjustments when required. (See Fig. 3-2-2b.)
(5) Reduce the V.PB FM waveform by the tracking operation. If a drop in level is found on the left side, turn the guide roller of the pole base assembly (supply side) with the roller driver to make the V.PB FM waveform linear.
If a drop in level is on the right side, likewise turn the guide roller of the pole base assembly (take-up side) with the roller driver to make it linear. (See Fig. 3-2-2b.)
(6) Make sure that the V.PB FM waveform varies in parallel and linearly with the tracking operation again. When required, perform fine-adjustment of the guide roller of the pole base assembly (supply or take-up side).
(7) Unload the cassette tape once, play back the alignment tape (A1) again and confirm the V.PB FM waveform.
(8) After adjustment, confirm that the tape wrinkling does not occur at the roller upper or lower limits. (See Fig. 3-2-2a.)

[Perform adjustment step (9) only for the models equipped with SP mode and EP (or LP) mode.]

(9) Repeat steps (1) to (8) by using the alignment tape (A2).

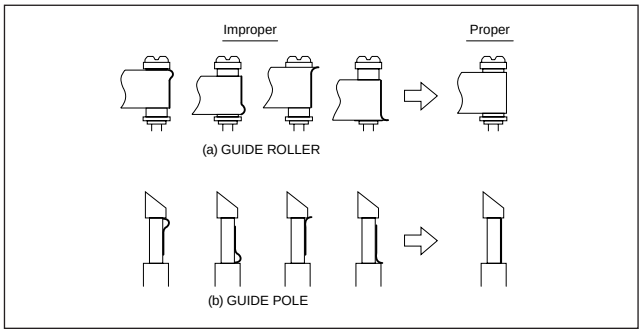


Fig. 3-2-2a

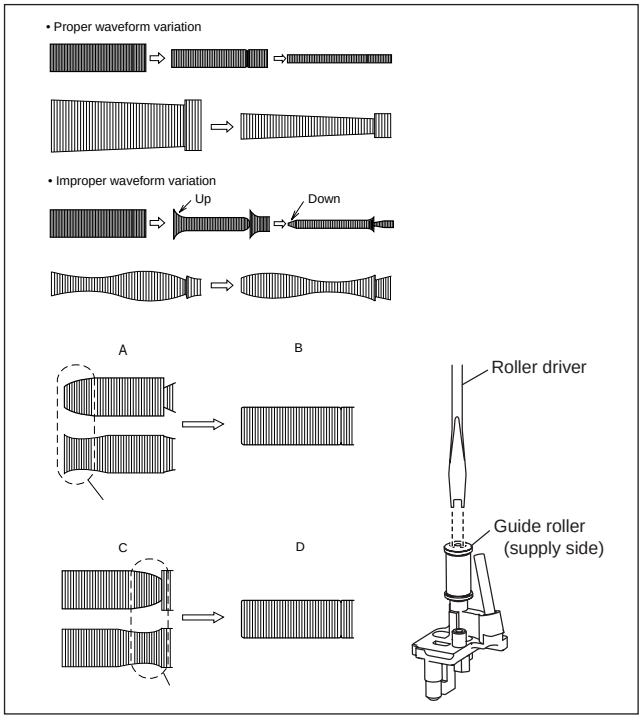


Fig. 3-2-2b

3.2.3 Height and tilt of the A/C head

Note:

- ***Set a temporary level of the height of the A/C head in advance to make the adjustment easier after the A/C head has been replaced. (See "section 2 mechanism".)***

Signal	(A)	• Alignment tape(SP, stairstep, PAL) [MHPE]
Mode	(B)	• PB
Equipment	(C)	• Oscilloscope
Measuring point	(D1) (D2)	• AUDIO OUT terminal • TP4001 (CTL. P)
External trigger	(E)	• TP111 (D.FF)
Adjustment part	(F)	• A/C head [Mechanism assembly]
Specified value	(G)	• Maximum waveform

(1) Play back the alignment tape (A).
(2) Apply the external trigger signal to D.FF (E), to observe the AUDIO OUT waveform and Control pulse waveform at the measuring points (D1) and (D2) in the ALT mode.
(3) Set the VCR to the manual tracking mode.
(4) Adjust the AUDIO OUT waveform and Control pulse waveform by turning the screws (1), (2) and (3) little by little until both waveforms reach maximum. The screw (1) and (3) are for adjustment of tilt and the screw (2) for azimuth.

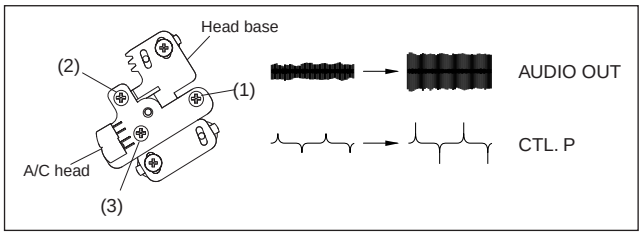


Fig. 3-2-3a

3.2.4 A/C head phase (X-value)

Signal	(A1) (A2)	• Alignment tape(SP, stairstep, PAL) [MHPE] • Alignment tape(LP, stairstep, PAL) [MHPE-L]
Mode	(B)	• PB
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• TP106 (PB. FM)
External trigger	(E)	• TP111 (D.FF)
Adjustment part	(F)	• A/C head base [Mechanism assembly]
Specified value	(G)	• Maximum V.PB FM waveform
Adjustment tool	(H)	• Roller driver [PTU94002]

(1) Play back the alignment tape (A1).
(2) Apply the external trigger signal to D.FF (E), to observe the V.PB FM waveform at the measuring point (D).
(3) Set the VCR to the manual tracking mode.
(4) Loosen the screws (4) and (5), then set the Roller driver to the innermost projected part of the A/C head. (See Fig. 3-2-4a.)
(5) Rotate the roller driver so that the A/C head comes closest to the capstan. From there, move the A/C head back gradually toward the drum until the point where the FM waveform is maximized for the second time, and then tighten the screws (4) and (5) temporarily.
(6) Play an alignment tape (A2) and set to the manual-tracking mode.
(7) Fine-adjust A/C head base position to maximize the FM waveform, and then tighten the screws (4) and (5) firmly.
(8) Play alignment tapes (A1) and (A2) and confirm that the FM waveforms are maximized when the tracking is at the center position.

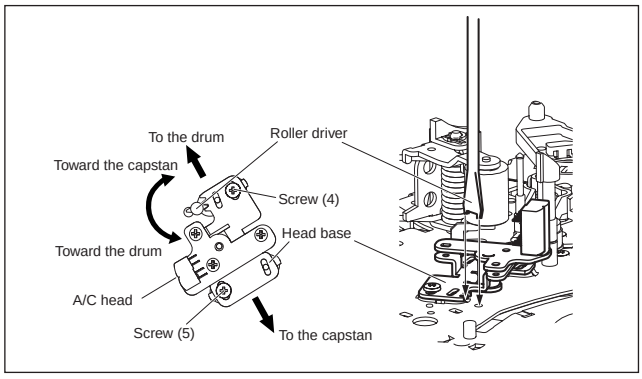


Fig. 3-2-4a

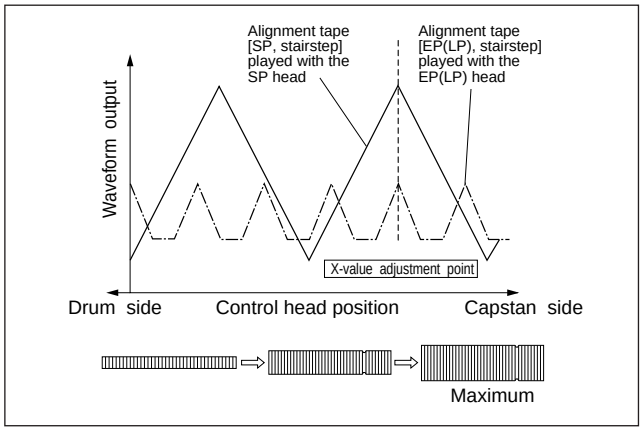


Fig. 3-2-4b

3.3 Electrical adjustment

Note:
The following adjustment procedures are not only necessary after replacement of consumable mechanical parts or board assemblies, but are also provided as references to be referred to when servicing the electrical circuitry.
In case of trouble with the electrical circuitry, always begin a service by identifying the defective points by using the measuring instruments as described in the following electrical adjustment procedures. After this, proceed to the repair, replacement and/or adjustment. If the required measuring instruments are not available in the field, do not change the adjustment parts (variable resistor, etc.) carelessly.

3.3.1 Servo circuit

3.3.1.1 Switching point

Signal	(A1) (A2) (A3)	• Stairstep signal • Alignment tape (LP, stairstep, PAL) [MHPE-L] • Alignment tape (EP, stairstep, NTSC) [MHP-L]
Mode	(B)	• PB • TBC:OFF
Equipment	(C)	• Oscilloscope
Measuring point	(D1) (D2)	• VIDEO OUT terminal (75Ω terminated) • TP106 (PB. FM)
External trigger	(E)	• TP111 (D.FF)
Adjustment part	(F) (F1)	• Jig RCU: Code “5A” • Jig RCU: Code “51” or “52”
Specified value	(G) (G)	• 7.5 ±0.5 H • 8.0 ±0.5 H (PAL) • 7.5 ±0.5 H (NTSC)
Adjustment tool	(H)	• Jig RCU [PTU94023B]

[For the model without TBC function]
(1) Play back the signal (A1) of the alignment tape (A2).
(2) Apply the external trigger signal to D. FF (E) to observe the VIDEO OUT waveform and V. PB FM waveform at the measuring points (D1) and (D2).
(3) Set the VCR to the manual tracking mode.
(4) Adjust tracking so that the V. PB FM waveform becomes maximum.
(5) Set the VCR to the Auto adjust mode by transmitting the code (F) from the Jig RCU. When the VCR enters the stop mode, the adjustment is completed.
(6) If the VCR enters the eject mode, repeat steps (1) to (5) again.
(7) Play back the alignment tape (A2) again, confirm that the switching point is the specified value (G).
[For the model equipped with TBC function]
Steps (1) to (4) are the same as previous steps (1) to (4).
(5) Transmit the code (F1) from the Jig RCU to adjust so that the trigger point of the VIDEO OUT waveform is changed from the trailing edge of the V. sync signal becomes the specified value (G1).
(6) Set the VCR to the stop mode or eject mode.
(7) Play back the signal (A1) of the alignment tape (A3).
(8) Repeat steps (2) to (6).

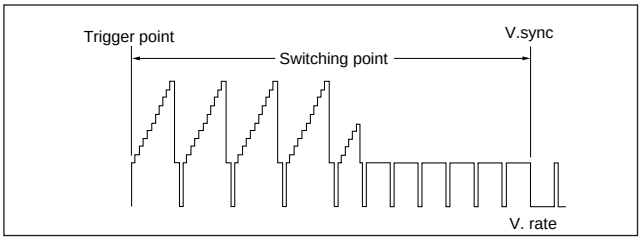


Fig. 3-3-1-1a Switching point

3.3.1.2 Slow tracking preset

Signal	(A1) (A2)	• Ext. input • Color (colour) bar signal [PAL]
Mode	(B1) (B2)	• VHS SP • VHS LP
Measuring point	(D)	• TV-Monitor
Adjustment part	(F)	• Jig RCU: Code “71“ or “72”
Specified value	(G)	• minimum noise
Adjustment tool	(H)	• Jig RCU [PTU94023B]

(1) Record the signal (A2) in the mode (B1), and play back the recorded signal.
(2) Set the VCR to the manual tracking mode.
(3) Set the VCR to the FWD slow (+1/6x) mode.
(4) Transmit the code (F) from the Jig RCU to adjust so that the noise bar becomes the specified value (G) on the TV monitor in the slow mode.
(5) Set the VCR to the Stop mode.
(6) Confirm that the noise bar is (G) on the TV monitor in the slow mode.
(7) Repeat steps (3) to (6) in the REV slow (–1/6x) mode.
(8) Repeat steps (1) to (7) in the mode (B2).

Note:

- ***For FWD slow (+1/6x) playback, transmit the code “08” from the Jig RCU to enter the slow playback mode, and transmit the code “D0” for REV slow (–1/6x) mode.***

3.3.2 Video circuit

3.3.2.1 EE Y/PB Y (S-VHS/VHS) level

Signal	(A1) (A2) (A3)	• Ext. S-input • Ext. input • Color (colour) bar signal [PAL]
Mode	(B1) (B2) (B3)	• EE SP • S-VHS SP • VHS SP
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• Y OUT terminal (75Ω terminated)
EVR mode EVR address	(F1) (F2) (F3) (F4)	• Jig code “57” • A : 11 • Jig code “21” twice • Jig code “18” or “19” (Channel +/-)
Specified value	(G)	• 1.00 ± 0.05 Vp-p
Adjustment tool	(H)	• Jig RCU [PTU94023B]

(1) Input the signal (A3) from the input point (A1).
(2) Set the VCR to the mode (B1).
(3) Observe the Y OUT waveform at the measuring point (D).
(4) Set the VCR to the EVR mode by transmitting the code (F1) from the Jig RCU.
(5) Set the EVR address to (F2) by transmitting the code (F3) from the Jig RCU.
(6) Transmit the code (F4) from the Jig RCU to adjust so that the Y level of the Y OUT waveform becomes the specified value (G).
(7) Release the EVR mode of the VCR by transmitting the code (F1) from the Jig RCU again. (When the EVR mode is released, the adjusted data is memorized.)
(8) Input the signal (A3) from the input point (A2).
(9) Repeat steps (3) to (7) in the mode (B1).
(10) Record the signal (A3) in the mode (B2), and play back the recorded signal.
(11) Set the VCR to the manual tracking mode.
(12) Repeat steps (3) to (7) in the mode (B2).
(13) Record the signal (A3) in the mode (B3), and play back the recorded signal.
(14) Set the VCR to the manual tracking mode.
(15) Repeat steps (3) to (7) in the mode (B3).

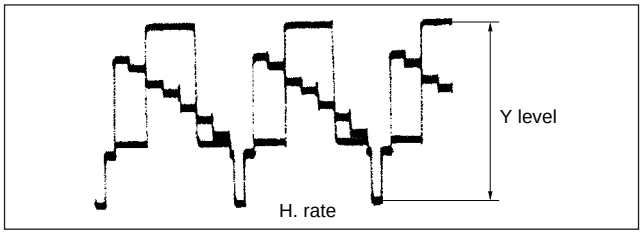


Fig. 3-3-2-1a EE/PB Y level

3.3.3 Audio circuit

Notes:

- ***GND (Ground) should be taken from the Tuner shield case.***

3.3.3.1 Audio REC FM

Signal	(A1) (A2) (A3)	• Ext. input • Audio: No signal • Video: Color (colour) bar signal [PAL]
Mode	(B)	• S-VHS LP
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• TP2253 (A. PB. FM)
External trigger	(E)	• TP111 (D.FF)
Adjustment part	(F)	• VR2251
Specified value	(G1) (G2)	• 600 ± 100 mVp-p • More than 400 mVp-p

(1) Apply the external trigger signal to D.FF (E) to observe the Audio PB FM waveform at the measuring point (D).
(2) Record the signal (A3) with no audio signal input in the mode (B), and play back the recorded signal.
(3) Set the VCR to the manual tracking mode.
(4) If the A.PB FM level is not within the specified value (G1), perform the adjustment in a following procedure.
(5) Adjust the Adjustment part (F) so that the A. PB FM level of the higher channel level becomes the specified value (G1). (Adjust before recording, then confirm it by playing back.)
(6) If the specified value (G1) is not obtained, adjust the Adjustment part (F) so that the waveform level of the lower channel level becomes the specified value (G2). (Adjust before recording, then confirm it by playing back.)

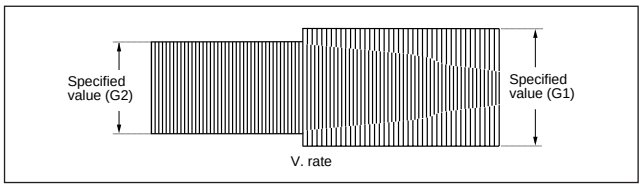


Fig. 3-3-3-1a Audio REC FM

3.3.4 Syscon circuit [EU/EK MODEL]

Note:
- ***When perform this adjustment, remove the Mechanism assembly.***

3.3.4.1 Timer clock

Signal	(A)	• No signal
Mode	(B)	• EE
Equipment	(C)	• Frequency counter
Measuring point Short point	(D1) (D2) (D3)	• IC3001 pin 61 • IC3001 pin 24 • C3026 + and –
Adjustment part	(F)	• C3025 (TIMER CLOCK)
Specified value	(G)	• 1024.008 ± 0.001 Hz (976.5549 ± 0.0010 µsec)

(1) Connect the frequency counter to the measuring point (D1).
(2) Connect the short wire between the short point (D2) and Vcc (5V).
(3) Short the leads of capacitor (D3) once in order to reset the microprocessor of the SYSCON.
(4) Disconnect the short wire between the short point (D2) and Vcc then connect it again.
(5) Adjust the Adjustment part (F) so that the output frequency becomes the specified value (G).

3.3.5 PAL/SECAM converter circuit [MS MODEL]

Note:
- ***Unless otherwise specified in this P/S Converter circuit adjustments, all measuring points and adjustment parts are located on the S-P Converter board.***

3.3.5.1 Colour difference level

Signal	(A1)	• Color (colour) bar signal [SECAM]
Mode	(B)	• EE
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• CN1601 Pin 7
Adjustment part	(F1) (F2)	• VR1602 (B-Y ADJ) • VR1601 (R-Y ADJ)
Specified value	(G1) (G2)	• 460 ± 20 mVp-p (B-Y) • 620 ± 20 mVp-p (R-Y)

(1) Observe the C (converted colour) waveform at the measuring point (D).
(2) Adjust the adjustment part (F1) so that the higher level of the Yellow and Blue of the C waveform becomes the specified value (G1).
(3) Adjust the adjustment part (F2) so that the higher level of the Green and Magenta of the C waveform becomes the specified value (G2).

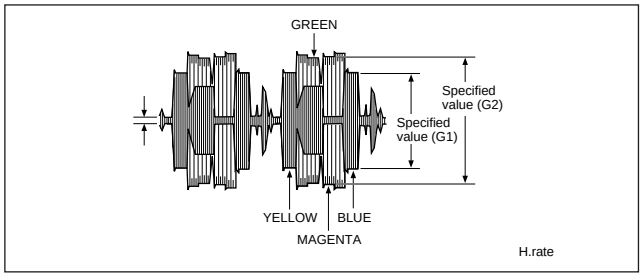


Fig. 3-5-1a Colour difference level

3.3.5.2 SECAM burst position

Signal	(A1) (A2)	• Ext. input • Color (colour) bar signal [SECAM]
Mode	(B)	• EE
Equipment	(C)	• Oscilloscope
Measuring point	(D1) (D2)	• CN1601 Pin 7 • CN1601 Pin 3
Adjustment part	(F)	• VR1603
Specified value	(G)	• Tr = 5.6 ± 0.1 µsec

(1) Observe the waveforms appeared at the measuring points (D1) and (D2).
(2) Adjust the adjustment part (F) so that the waveforms timing width between the H-SYNC and the colour burst signal becomes the specified value (G).

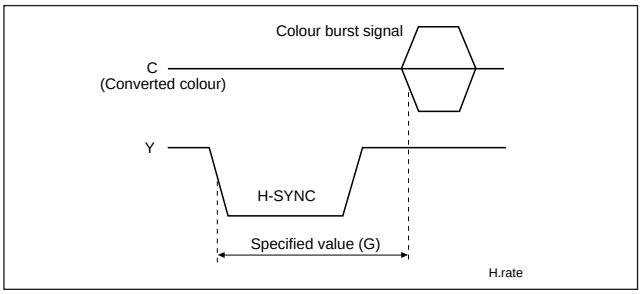


Fig. 3-5-2a PAL burst position

JVC

VICTOR COMPANY OF JAPAN, LIMITED
VIDEO DIVISION

S40894

Printed in Japan

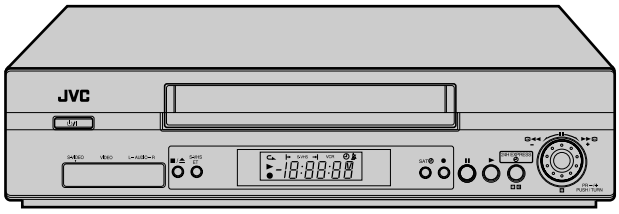
JVC

SCHEMATIC DIAGRAMS

VIDEO CASSETTE RECORDER

HR-S6950EU, HR-S6955MS, HR-S7950EU, HR-S7955EK, HR-S7955MS

CD-ROM No.SML200207



SHOWVIEW® DELUXE
Hi-Fi S-VHS 625
Super VHS ET

SPECIFICATIONS *(The specifications shown pertain specifically to the model HR-S7950EU.)*

GENERAL

Power requirement : AC 220 V – 240 V~, 50 Hz/60 Hz
Power consumption
  Power on : 18 W
  Power off : 3.6 W
Temperature
  Operating : 5°C to 40°C
  Storage : –20°C to 60°C
Operating position : Horizontal only
Dimensions (WxHxD)
  : 400 mm x 94 mm x 270 mm
Weight : 3.4 kg
Format : S-VHS/VHS PAL standard
Maximum recording time
  (SP) : 240 min. with E-240 video cassette
  (LP) : 480 min. with E-240 video cassette
  (EP) : 720 min. with E-240 video cassette

VIDEO/AUDIO

Signal system : PAL-type colour signal and CCIR monochrome signal, 625 lines 50 fields
Recording system : DA4 (Double Azimuth) head helical scan system
Signal-to-noise ratio: 45 dB
Horizontal resolution
  (SP/LP) : 250 lines (VHS)
  400 lines (S-VHS)
  (EP) : 220 lines (VHS)
  350 lines (S-VHS)
Frequency range : 70 Hz to 10,000 Hz (Normal audio)
  20 Hz to 20,000 Hz (Hi-Fi audio)

Input/Output : 21-pin SCART connectors:
  IN/OUT x 1, IN/DECODER x 1
  RCA connectors:
  VIDEO IN x 1, AUDIO IN x 1,
  AUDIO OUT x 1
  S-Video connector:
  IN x 1, OUT x 1

TUNER/TIMER

TV channel storage capacity
  : 99 positions (+AUX position)
Tuning system : Frequency synthesized tuner
Channel coverage : VHF 47 MHz – 89 MHz/
  104 MHz – 300 MHz/
  302 MHz – 470 MHz
  UHF 470 MHz – 862 MHz
Aerial output : UHF channels 22 – 69 (Adjustable)
Memory backup time
  : Approx. 10 min.

ACCESSORIES

Provided accessories
  : RF cable,
  Infrared remote control unit,
  "R6" battery x 2

Specifications shown are for SP mode unless otherwise specified.
E.& O.E. Design and specifications subject to change without notice.

V15S1/S2/S15

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No.82923SCH
June 2002

SECTION 4
CHARTS AND DIAGRAMS

NOTES OF SCHEMATIC DIAGRAM

Safety precautions
The Components identified by the symbol ⚠ are critical for safety. For continued safety, replace safety critical components only with manufacturer's recommended parts.

1. Units of components on the schematic diagram

Unless otherwise specified.

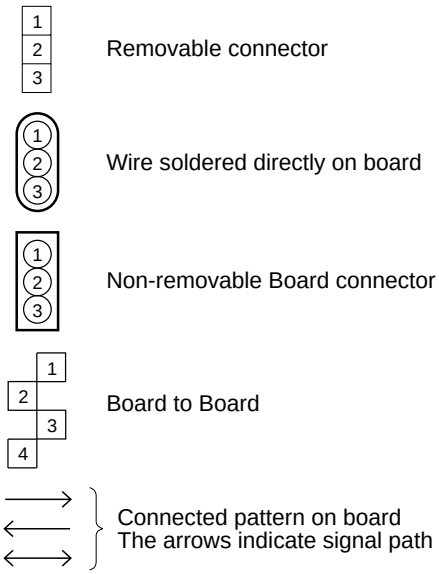
1) All resistance values are in ohm, 1/6 W, 1/8 W (refer to parts list).
   Chip resistors are 1/16 W.
   K: KΩ (1000Ω), M: MΩ (1000KΩ)
2) All capacitance values are in µF, (P: PF).
3) All inductance values are in µH, (m: mH).
4) All diodes are 1SS133, MA165 or 1N4148M (refer to parts list).

2. Indications of control voltage

AUX : Active at high

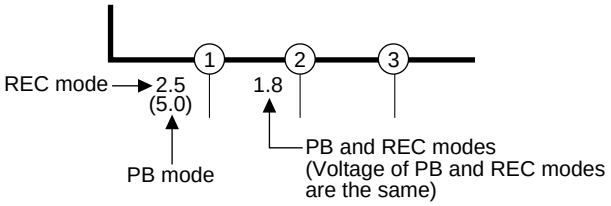
$\overline{\text{AUX}}$ or AUX(L) : Active at low

3. Interpreting Connector indications



4. Voltage measurement

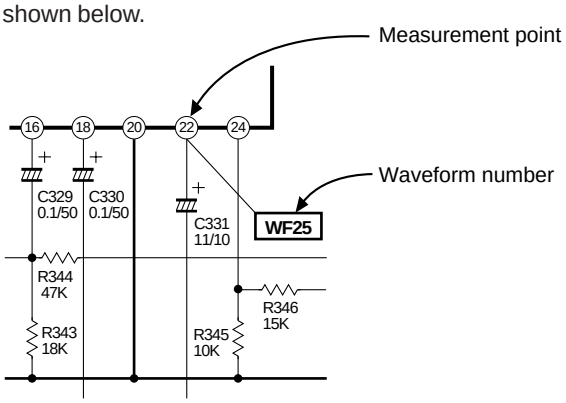
1) Video circuits
   REC : Colour bar signal in SP mode, normal VHS mode
   PB : Alignment tape, colour bar SP mode, normal VHS mode
   — : Unmeasurable or unnecessary to measure
2) Audio circuits
   REC : 1KHz, –8 dBs sine wave signal in SP mode, Normal VHS mode
   PB : REC then playback it
3) Movie Camera circuits
   Measured using a correctly illuminated gray scale or colour bar test charts in the E-E mode
4) Indication on schematic diagram
   Voltage Indications for REC and PB mode on the schematic diagram are as shown below.



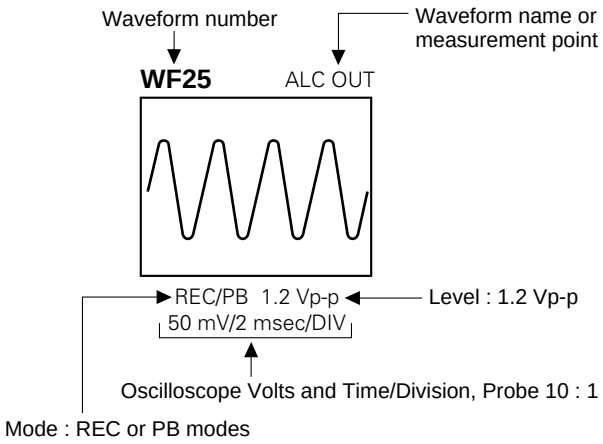
Note: If the voltages are not indicated on the schematic diagram, refer to the voltage charts.

5. Waveform measurement

1) Video circuits
   REC : Colour bar signal in SP mode, normal VHS mode
   PB : Alignment tape, colour bar SP mode, normal VHS mode
2) Audio circuits
   REC : 1KHz, –8 dBs sine wave signal in SP mode, normal VHS mode
   PB : REC then playback it
3) Movie Camera circuits
   Measured using a correctly illuminated gray scale or colour bar test chatrs in the E-E mode
4) Indication on schematic diagram
   Waveform indications on the schematic diagram are as shown below.



5) Waveform indications



6. Signal path Symbols

The arrows indicate the signal path as follows.

Playback signal path

Playback and recording signal path

Recording signal path
(including E-E signal path)

Capstan servo path

Drum servo path

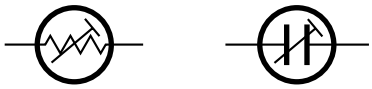
(Example)

R-Y Playback R-Y signal path

Y Recording Y signal path

7. Indication of the parts for adjustments

The parts for the adjustments are surrounded with the circle as shown below.



8. Indication of the parts not mounted on the circuit board

"OPEN" is indicated by the parts not mounted on the circuit board.

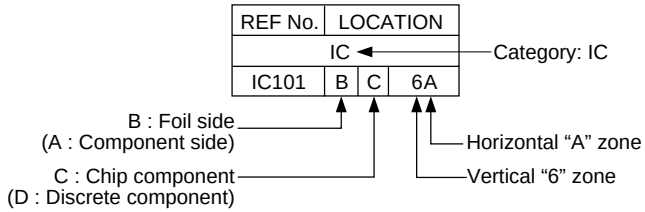
CIRCUIT BOARD NOTES

1. Foil and Component sides

1) Foil side (B side) :
Parts on the foil side seen from foil face (pattern face) are indicated.
2) Component side (A side) :
Parts on the component side seen from component face (parts face) indicated.

2. Parts location guides

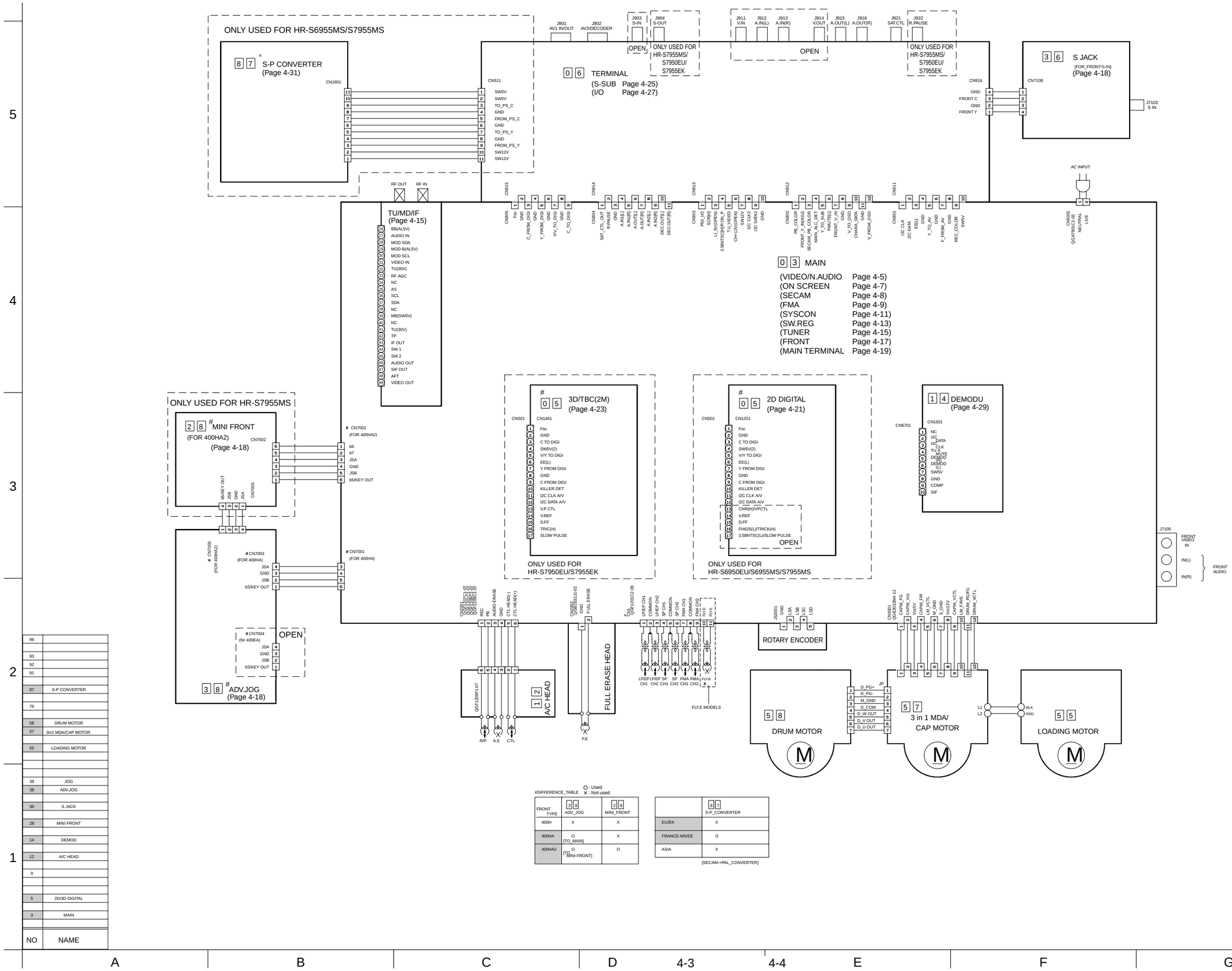
Parts location are indicated by guide scale on the circuit board.



Note:

For general information in service manual, please refer to the Service Manual of GENERAL INFORMATION Edition 4 No. 82054D (January 1994).

4.1 BOARD INTERCONNECTIONS



FRONT TYPE	3 8 ADV_JOG	2 8 MINI_FRONT
400H	X	X
400HA	O [TO_MAIN]	X
400HA2	O [TO_MAIN]	O [MINI-FRONT]

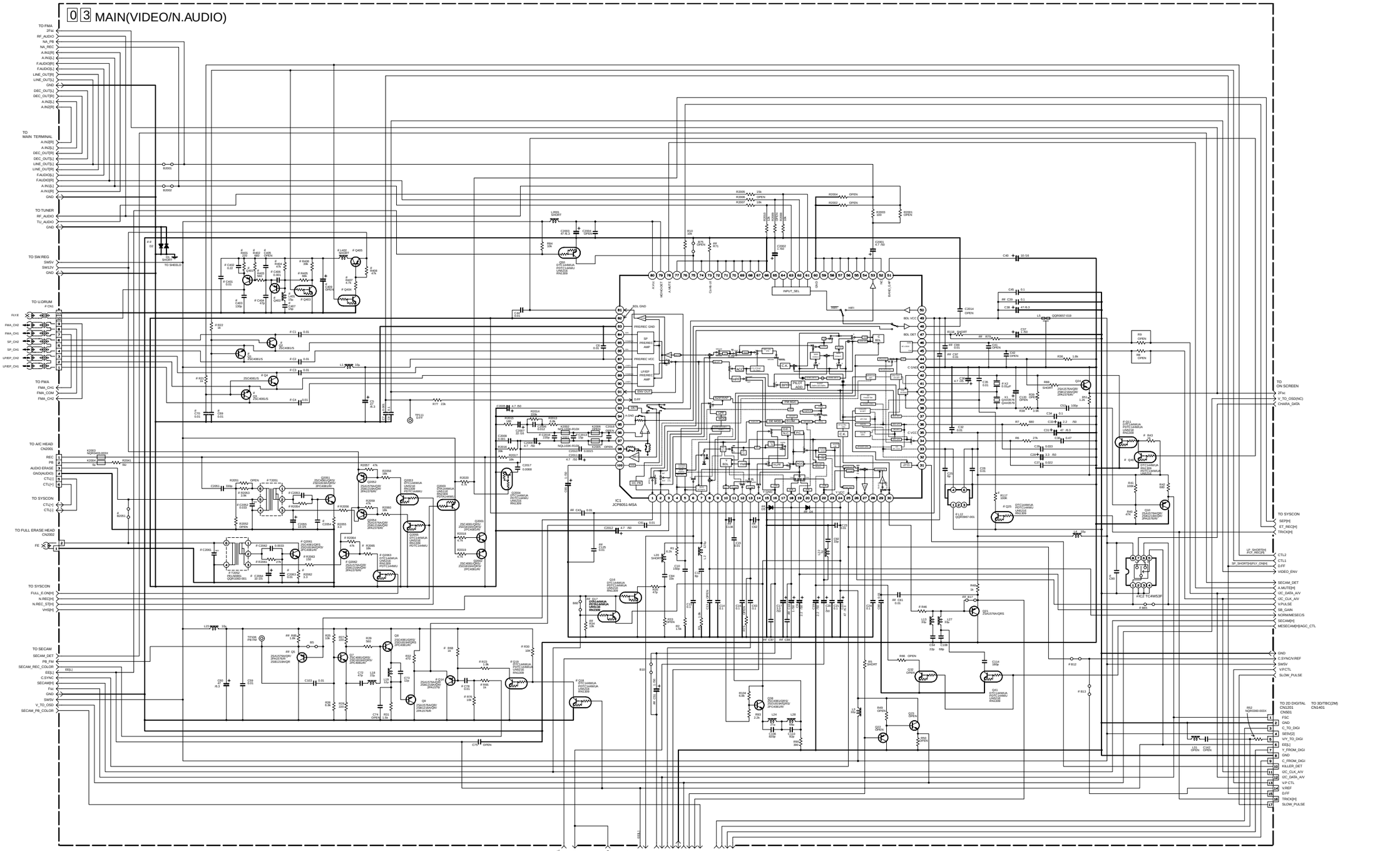
	8 7 S-P_CONVERTER
EU/EK	X
FRANCE-MS/EE	O
ASIA	X

NO	NAME
96	
93	
92	
91	
87	S-P CONVERTER
76	
58	DRUM MOTOR
57	3in1 MDA/CAP MOTOR
55	LOADING MOTOR
39	JOG
38	ADV.JOG
36	S JACK
28	MINI FRONT
14	DEMOD
12	A/C HEAD
9	
5	2D/3D DIGITAL
3	MAIN

p10437001a_rev0

4.2 MAIN (VIDEO/N.AUDIO) SCHEMATIC DIAGRAM

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



#DEFFERENCE TABLE

V15 SP LINEUP	CN1	FLY.ERASE	H.SHORT	PRE.IN	PAL_EP TRICK		C TRAP	3D			for_MS	AUDIO.DUBBING								
		R401-R408 Q401-Q405 C401-C407 *L401-L402* C409	Q1-Q4 *C69,C70* *R21,R22*	C1-C4	R41 Q11 Q40	R117 Q29	R46	B12	B13	X2 0.01uF	*Q14,Q18,Q19* *R23,R30R65* *R66,R75,C78*	Function	T2051	B2051	R2053	R2054	R2056	C2053	C2054	C2061	Q2061-Q2063 T2052 C2052 R2061-R2065 C2062-C2064
S6950EU(S1)	1-9	X	O	0.01	O	X	220	O	X	X	X	X	PELN0832	O	3.9k	12k	82	0.0047	0.022	0.082	
"S7950EU,S7955EK(S2)"	1-9	X	O	0.01	X	O	470	X	O	O	X	X	PELN0832	O	3.9k	12k	82	0.0047	0.022	0.082	X
S7955MS(S15)	1-11	O	X	0.1	O	X	220	O	X	X	O	O	PELN0860	X	3.9k	15k	100	0.0033	0.01	0.033	O
S6955MS(S1)	1-9	X	O	0.01	O	X	220	O	X	X	X	O	PELN0832	O	3.9k	12k	82	0.047	0.022	0.082	X
S8955EE(S25)	1-11	O	X	0.1	X	O	470	X	O	O	X	O	PELN0860	X	3.9k	15k	100	0.0033	0.01	0.033	O

O : Used
X : Not used

MARKS ARE NOT MOUNTED ALL MODELS

TITLE REC	B65	IC2 C50
YES	X	O
NO	O	X

NOTES:UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN μF.

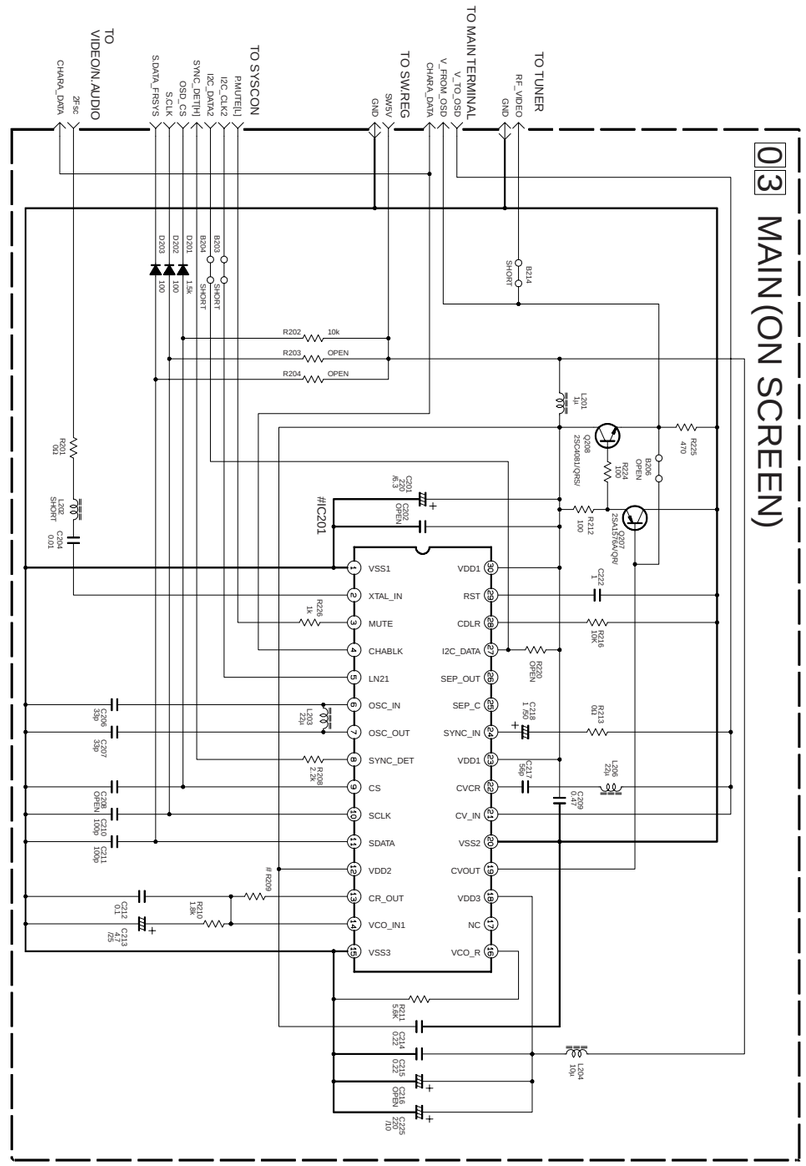
ELECTROLYTIC
CERAMIC
MYLER
NON POLAR

ALL NPN TYPE TRANSISTORS ARE 2SC4081/QRS/ or 2SD1819A/QRS/ or 2PC4081R/
ALL PNP TYPE TRANSISTORS ARE 2SA1576A/QR/ or 2SB1218A/QR/ or 2PA1576R/
ALL NPN TYPE DIGITAL TRANSISTORS ARE DTC144WUA or UN511E or RN2309 or PDTC144WU
ALL PNP TYPE DIGITAL TRANSISTORS ARE DTA144WUA or UN511E or RN2309 or PDTA144WU

p10439001a_rev1

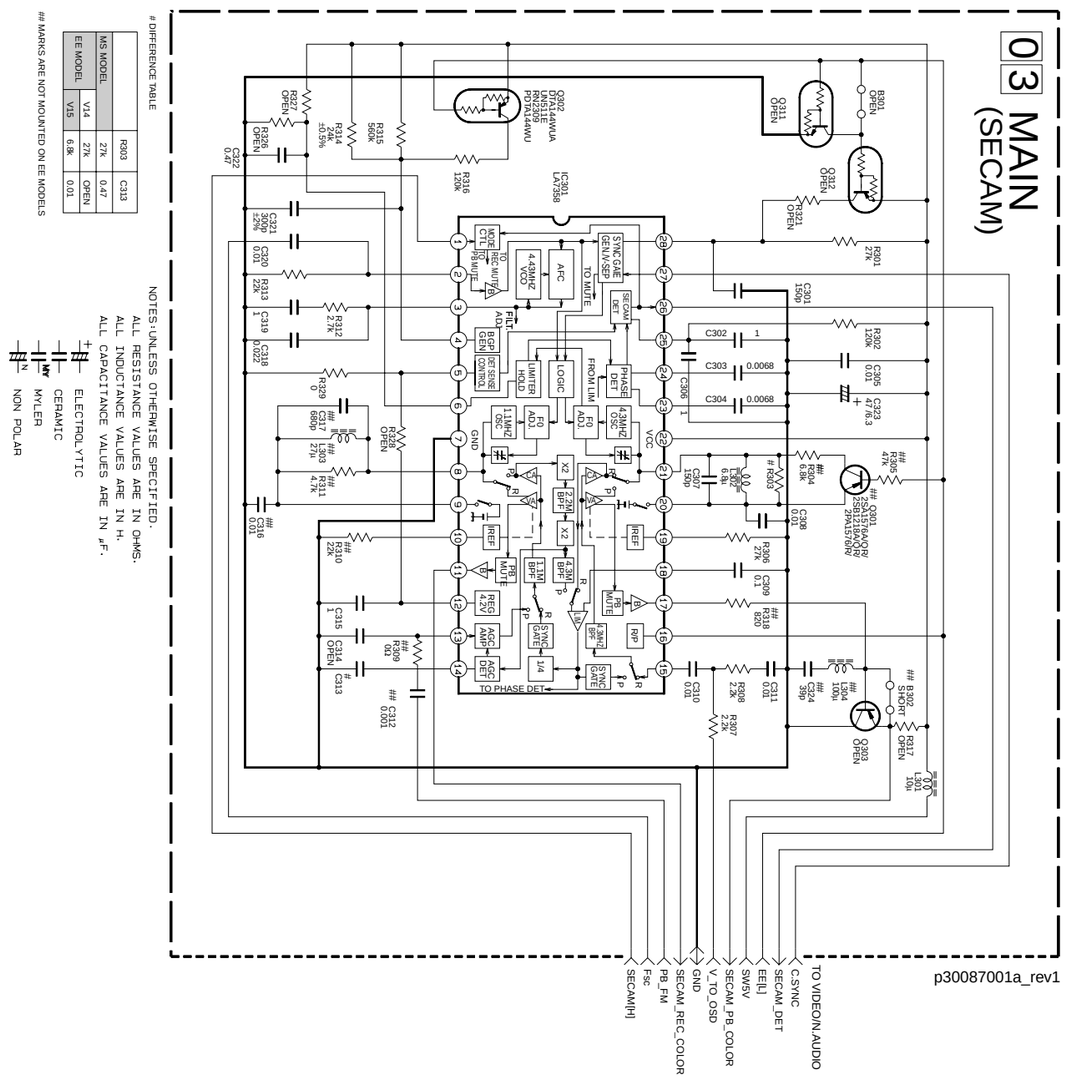
4.3 MAIN (ON SCREEN) SCHEMATIC DIAGRAM

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



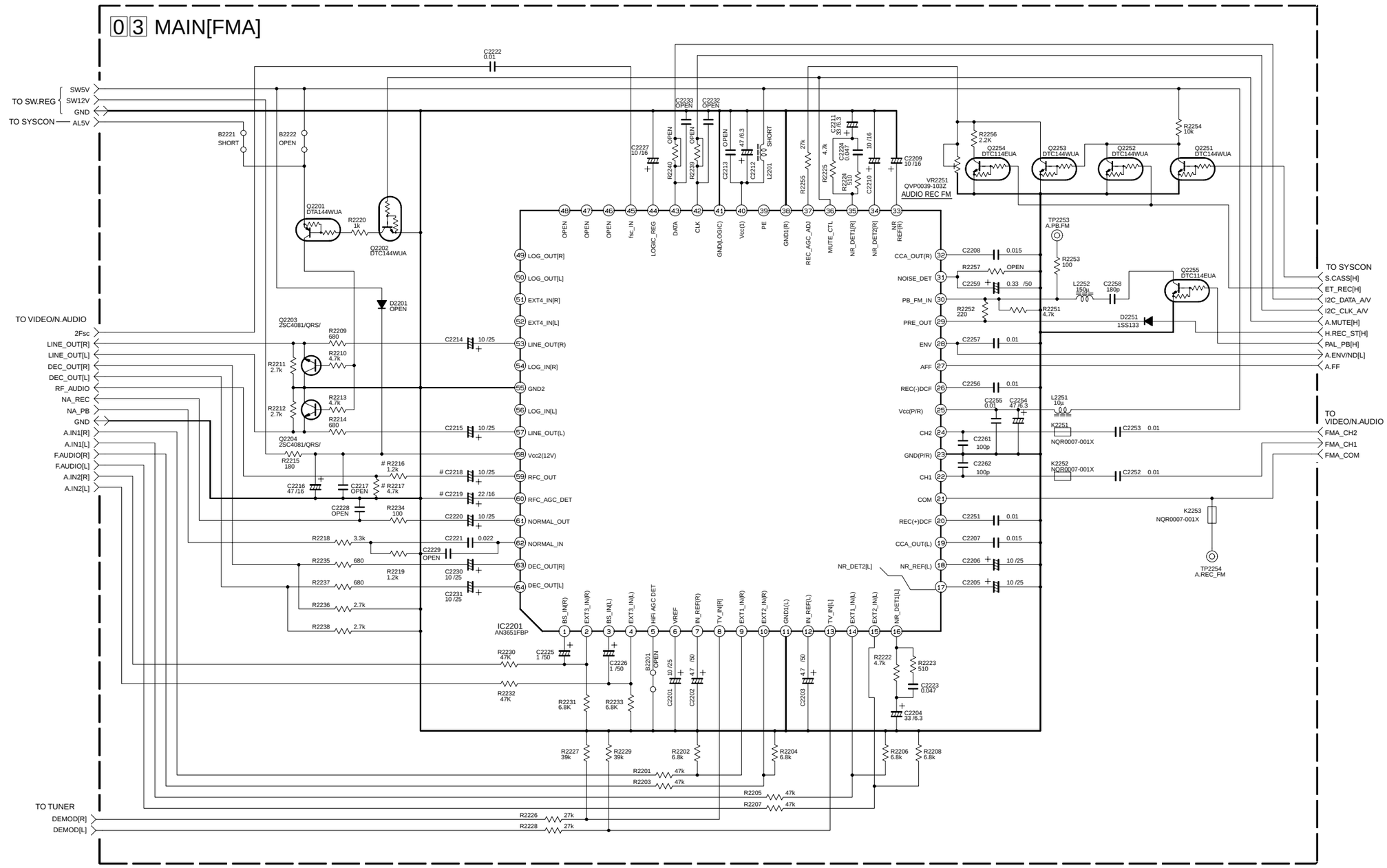
4.4 MAIN (SECAM) SCHEMATIC DIAGRAM [HR-S6955MS/S7955MS]

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



4.5 MAIN (FMA) SCHEMATIC DIAGRAM

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



#DIFFERENCE TABLE 1 ○ : Used × : Not used

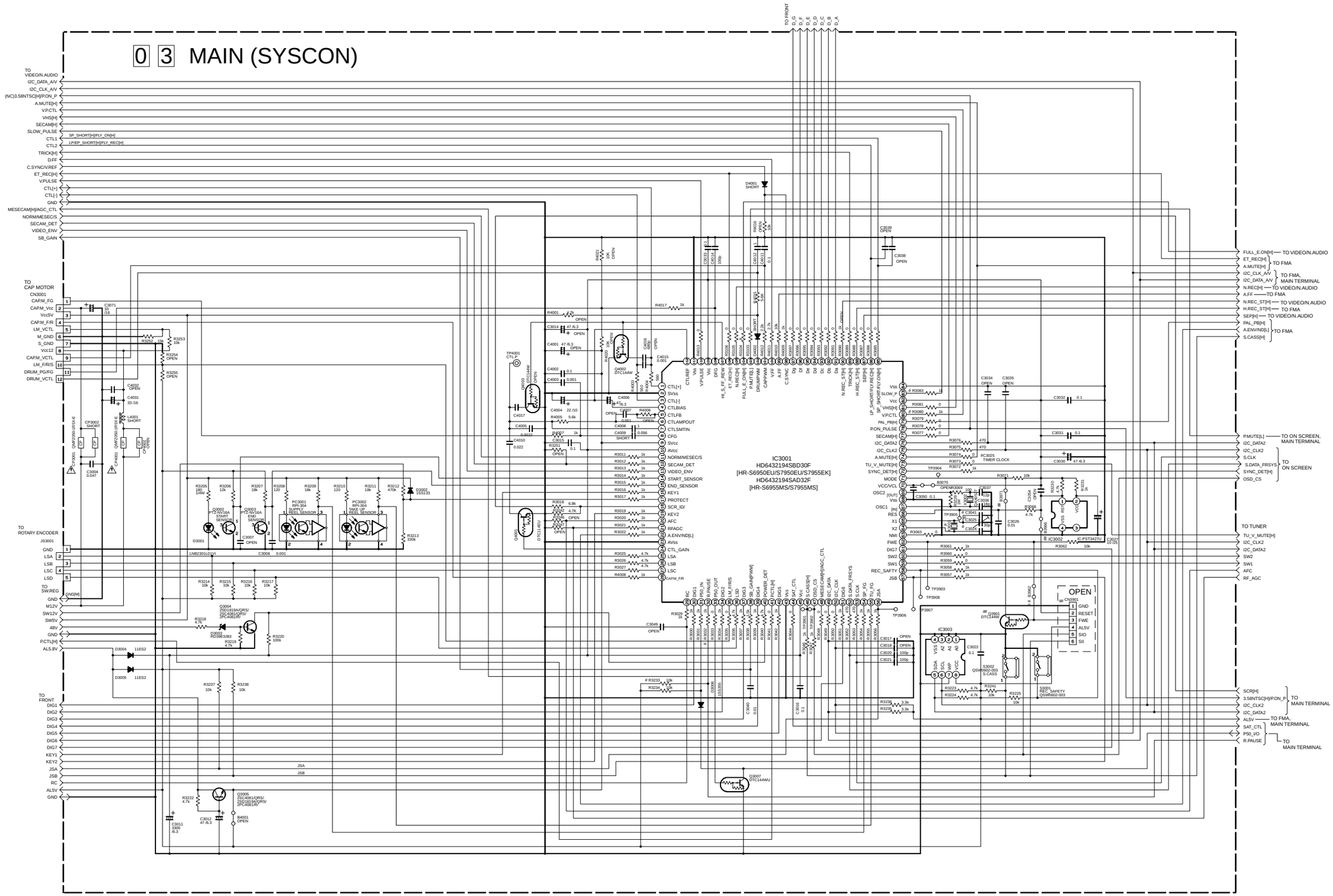
RF OUT	C2218	C2219	R2216	R2217
YES		○		
NO		×		

NOTES:UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN μF.

ELECTROLYTIC
CERAMIC
MYLER
NON POLAR

4.6 MAIN (SYSCON) SCHEMATIC DIAGRAM

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



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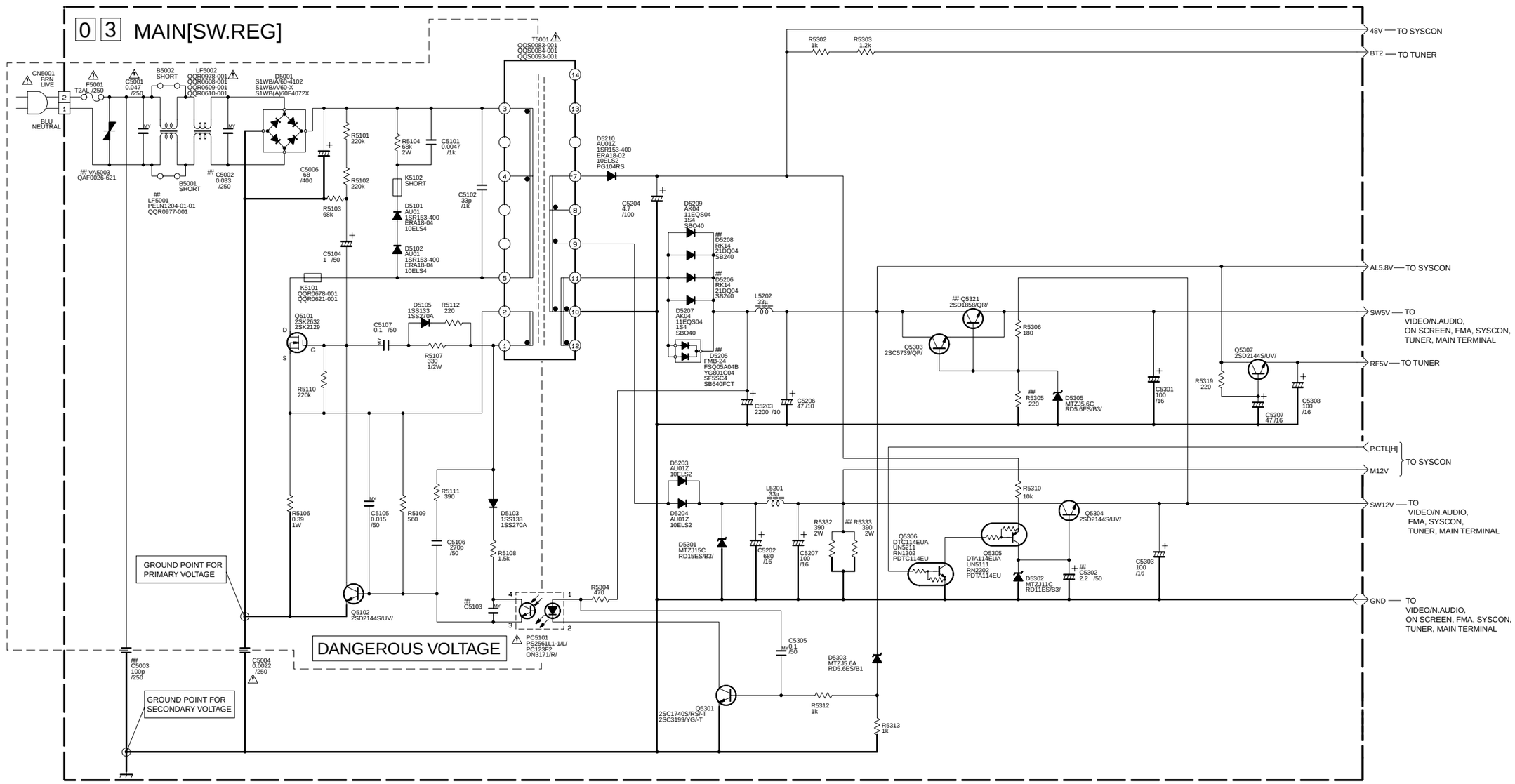
4.7 MAIN (SW.REG) SCHEMAITC DIAGRAM

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



MARK ELEMENTS ARE NOT MOUNTED

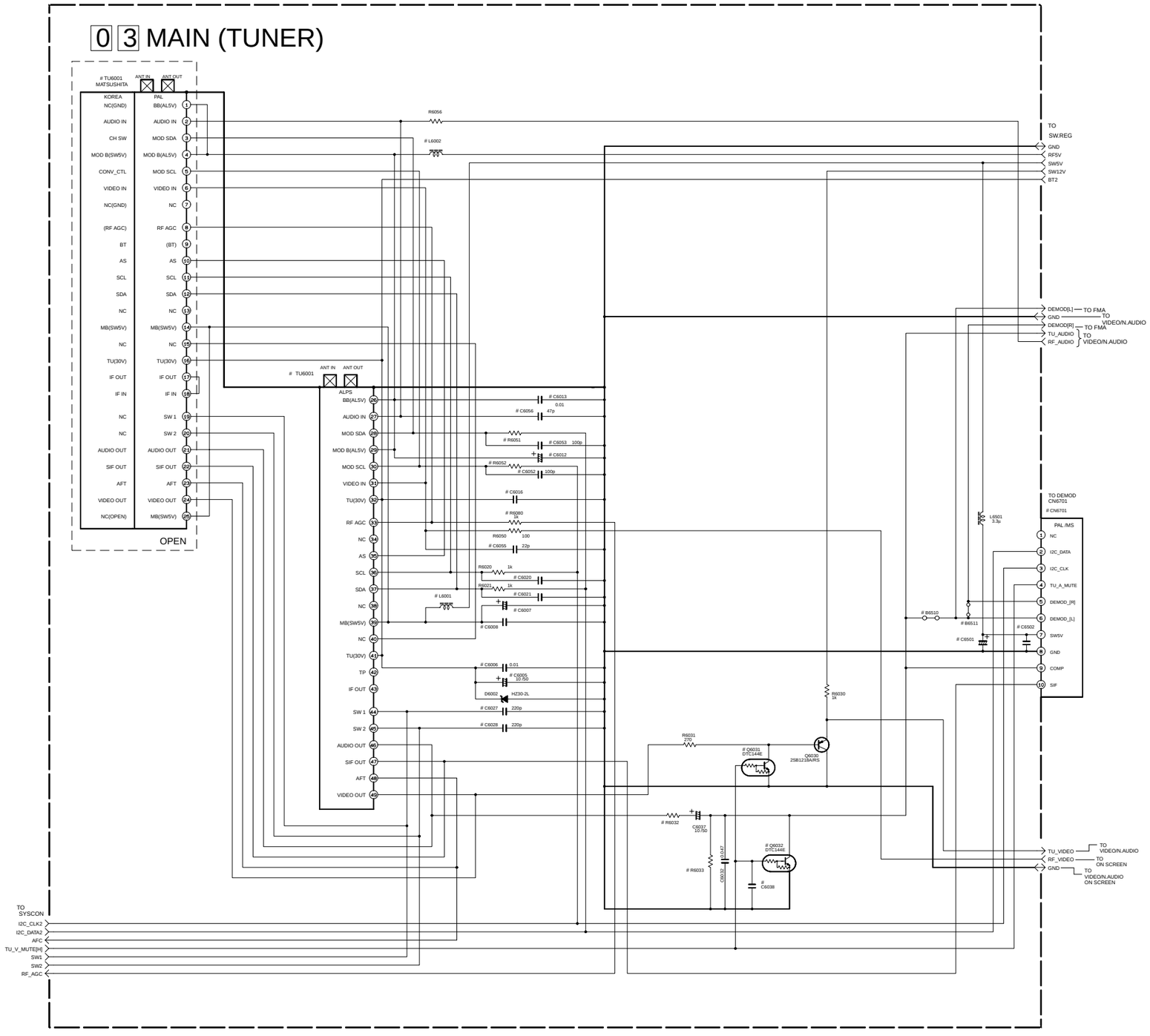
NOTES : UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN μF.

ELECTROLYTIC
CERAMIC
MYLER
NON POLAR

p20236001a_rev0

4.8 MAIN (TUNER) SCHEMATIC DIAGRAM

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



DIFFERENCE TABLE ○ : Used × : Not used

		EU/EK	FRANCE MS	EE
TUNER	TU6001	ALPS QAU0261	LG QAU0266	ALPS QAU0261
ATS+	R6080	1kΩ	1kΩ	×
SW5V	L6001	10µ	10µ	10µ
	C6007	×	×	×
	C6008	0.01	×	0.01
RF5V	C6012	×	×	×
	C6013	0.01	0.01	0.01
BT2 RF CONV.	C6016	×	×	×
BT2 TUNER	C6005	×	×	×
	C6006	×	×	×
RF CONV. I2C	R6051	100	×	100
	C6053	×	×	×
	R6052	100	×	100
	C6052	×	×	×
AUDIO IN	R6056	100	×	100
	C6056	○	×	○
VIDEO IN	R6050	○	×	○
	C6055	○	×	○
TUNER I2C	C6020	×	×	×
	C6021	×	×	×
SYSTEM SW	C6027	×	×	×
	C6028	×	×	×
AUDIO OUT	R6032	4.7k	18k	4.7k
	R6033	1.8k	18k	1.8k
	C6032	○	×	○
	Q6032	○	○	×
VIDEO OUT	Q6031	○	○	×
DEMOD PASS CON	C6501	10µ	10µ	10µ
	C6502	0.01	0.01	0.01

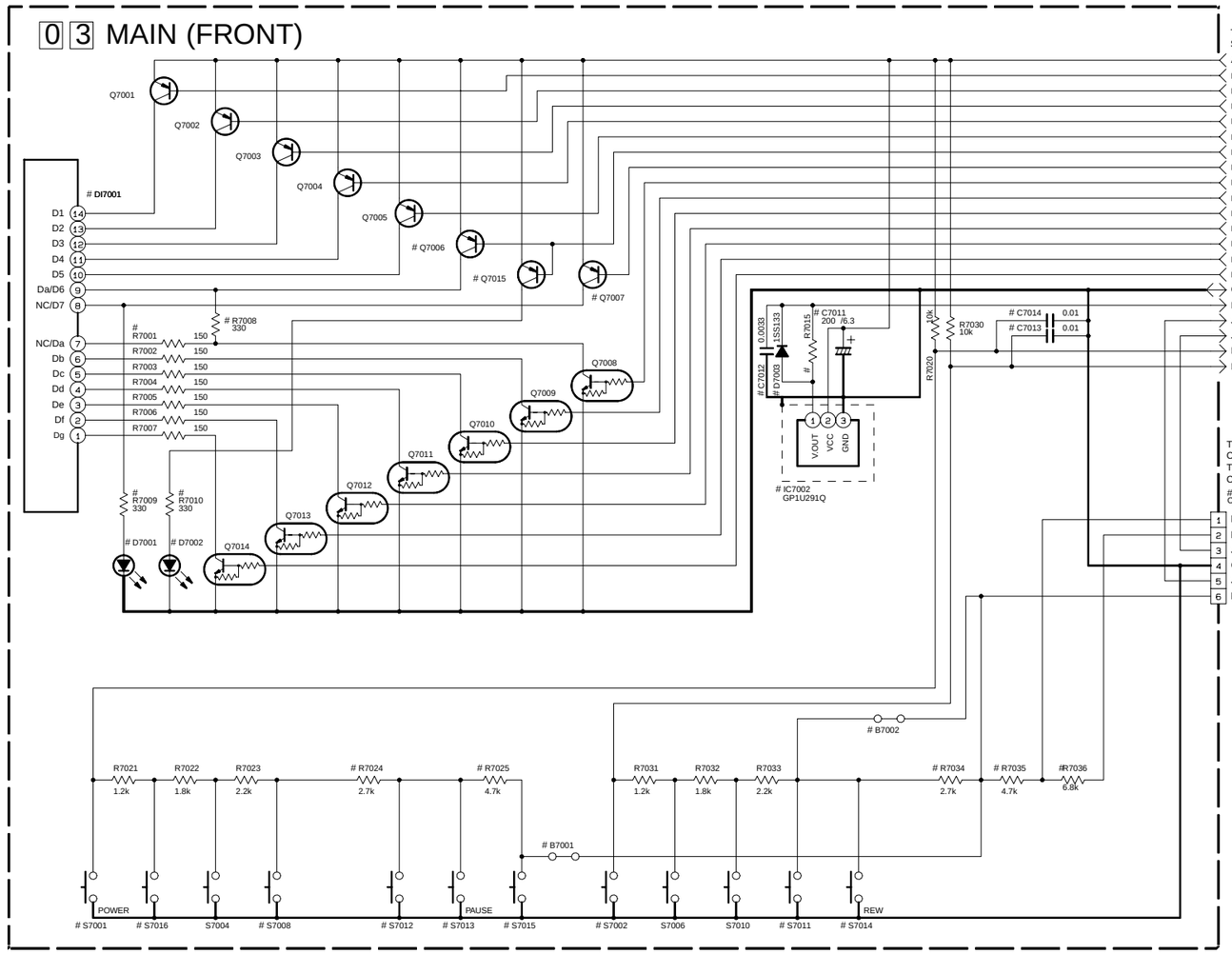
NOTES:UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN µF.

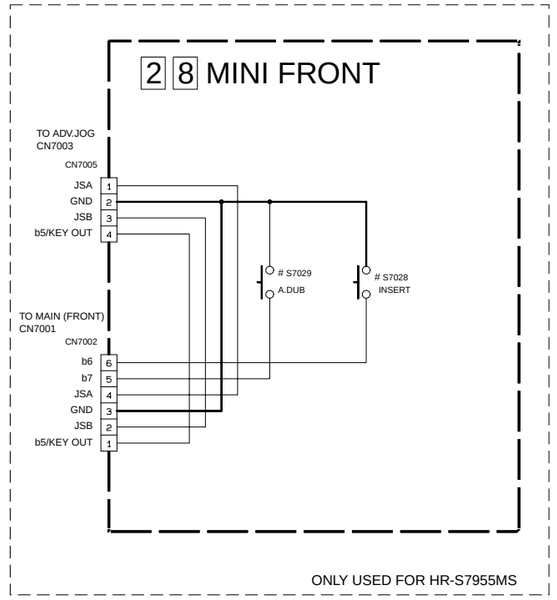
ELECTROLYTIC
CERAMIC
MYLER
NON POLAR

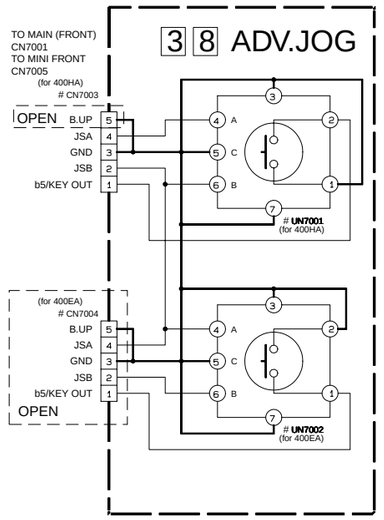
p10436001a_rev0

4.9 MAIN (FRONT), MINI FRONT, S-JACK AND ADV.JOG SCHEMATIC DIAGRAMS

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.







7seg LED

	DI7001			R7001 Q7006 Q7007	R7008
	7	8	9		
V14TYPE	NC	NC	Da	×	○
V15NEW	Da	D7	D6	○	×

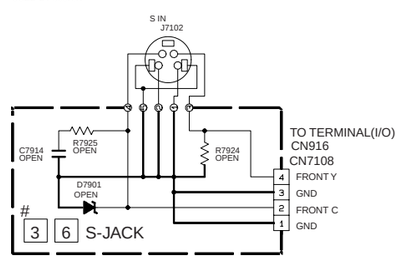
LED (ONLY USED BY V14TYPE 7segLED)

		R7009	R7010	Q7007	Q7015
D7001	USED	○	-	○	-
	NOT USED	×	-	×	-
D7002	USED	-	○	-	○
	NOT USED	-	×	-	×

○ : Used
× : Not used

IC7042 /C7041 /C7042 /D7043 /R7046 USED BY 360H/K

TOOL	CN7001
400HA2	1-6
OTHERS	3-6



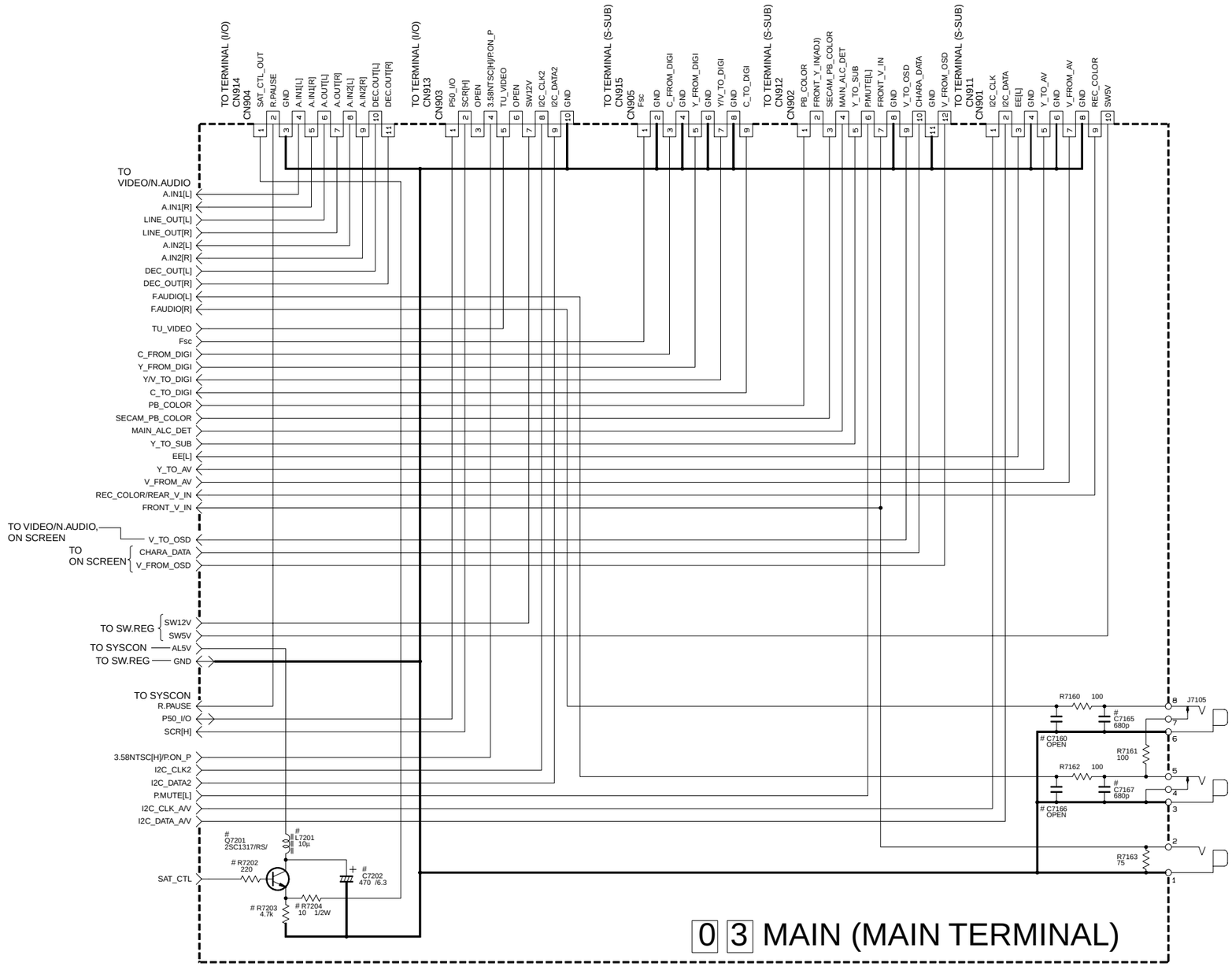
NOTES:UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN μF.

ELECTROLYTIC
CERAMIC
MYLER
NON POLAR

p20280001a_rev0

4.10 MAIN (MAIN TERMINAL) SCHEMATIC DIAGRAM

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



NOTES:UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN µF.

ELECTROLYTIC
CERAMIC
MYLER
NON POLAR

DIFFERENCE TABLE

SAT CTL	Q7201 R7202 R7203 R7204 C7202 L7201
YES	○
NO	×

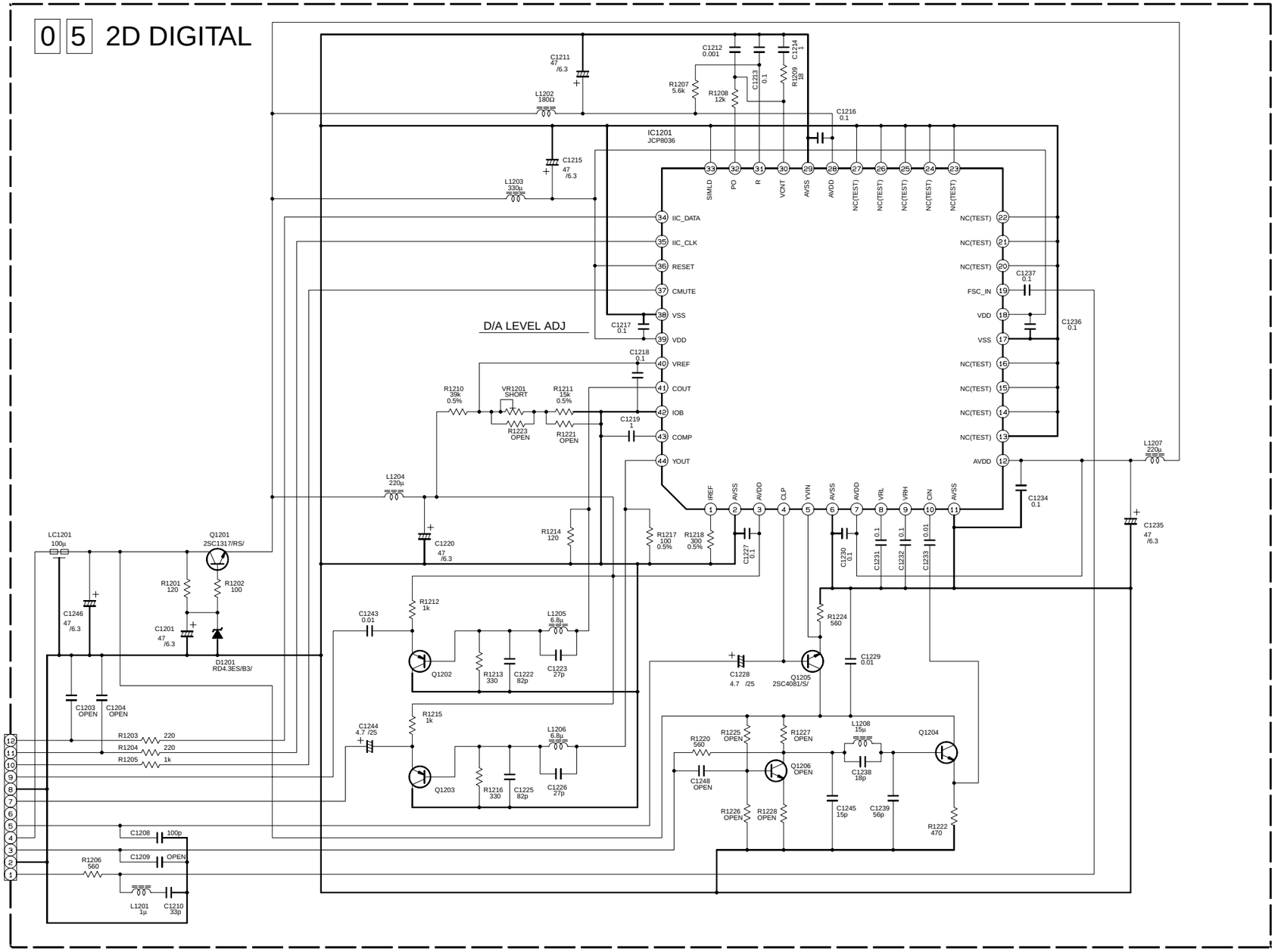
○ : Used
× : Not used

CE	C7160 C7165 C7166 C7167
YES	○
NO	×

p30104001a_rev0

4.11 2D DIGITAL SCHEMATIC DIAGRAM [HR-S6950EU/S6955MS/S7955MS]

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



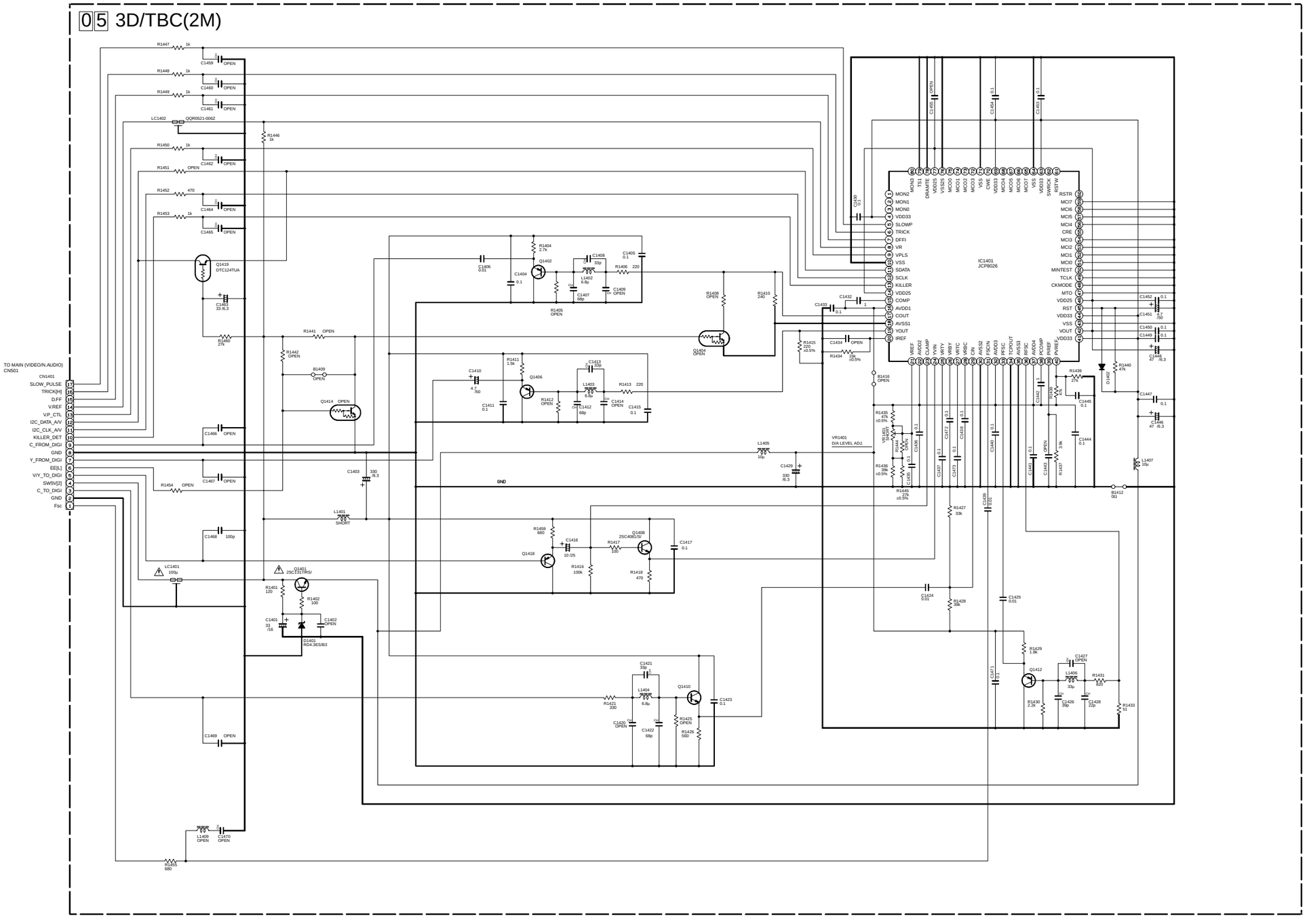
NOTES:UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN μF.
ALL NPN TYPE TRANSISTORS ARE 2SC4081/QRS/.
ALL PNP TYPE TRANSISTORS ARE 2SA1576A/QR/.

ELECTROLYTIC
CERAMIC
MY MYLER
N NON POLAR

p20282001a_rev0

4.12 3D/TBC (2M) SCHEMATIC DIAGRAM [HR-S7950EU/S7955EK]

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



NOTES:UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN µF.

ELECTROLYTIC
CERAMIC
MYLER
NON POLAR

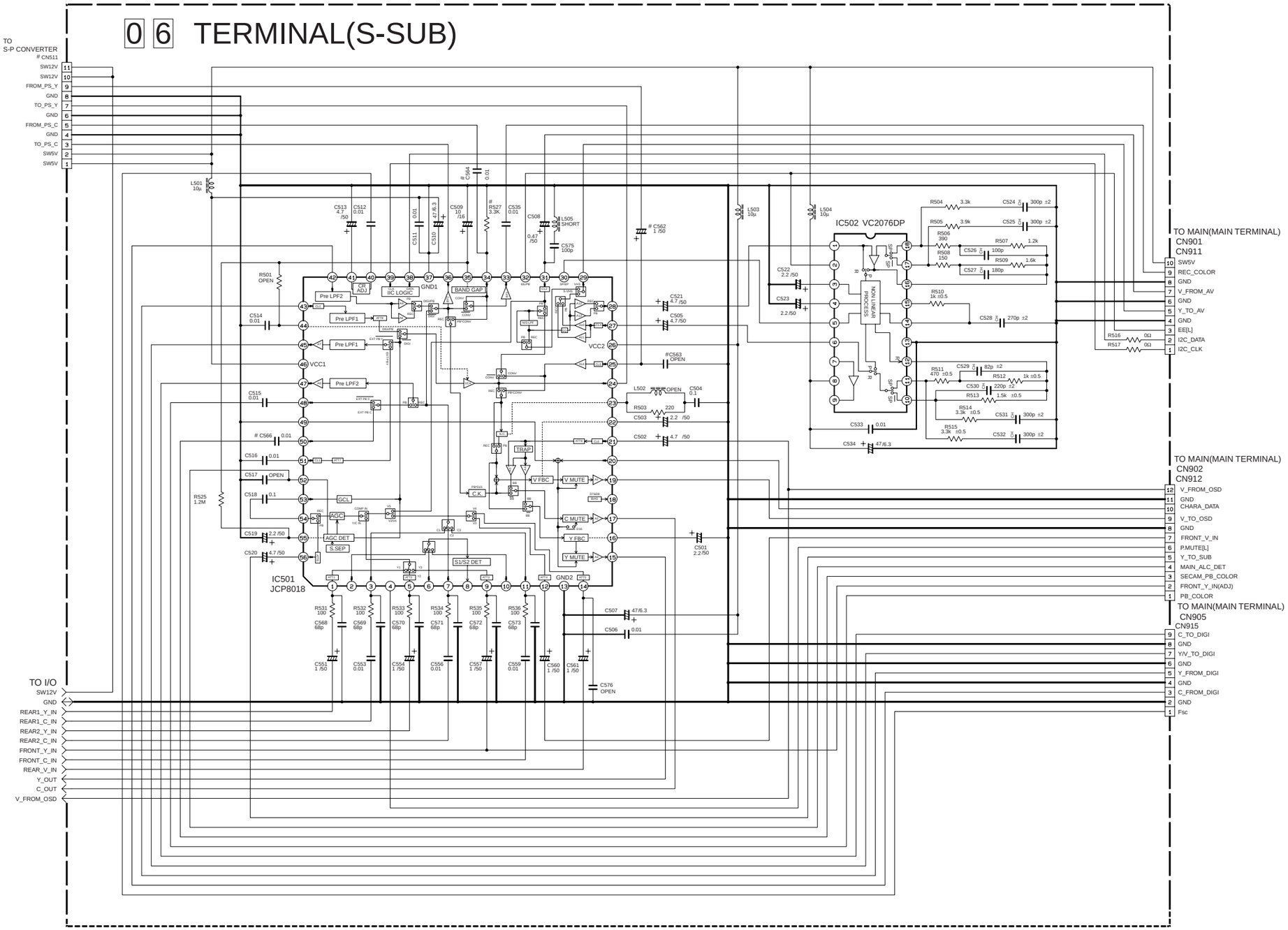
ALL DIODES ARE 1SS133 OR 1N4148.
ALL PNP TYPE TRANSISTORS ARE 2SA1576A/QR/ OR 2PA1576/R/.
ALL NPN TYPE TRANSISTORS ARE 2SC4081/QRS/ OR 2PC4081/R/.

p10440001a_rev1

4-23 4-24

4.13 TERMINAL (S-SUB) SCHEMATIC DIAGRAM

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



○ : Used
× : Not used

DIFFERENCE TABLE

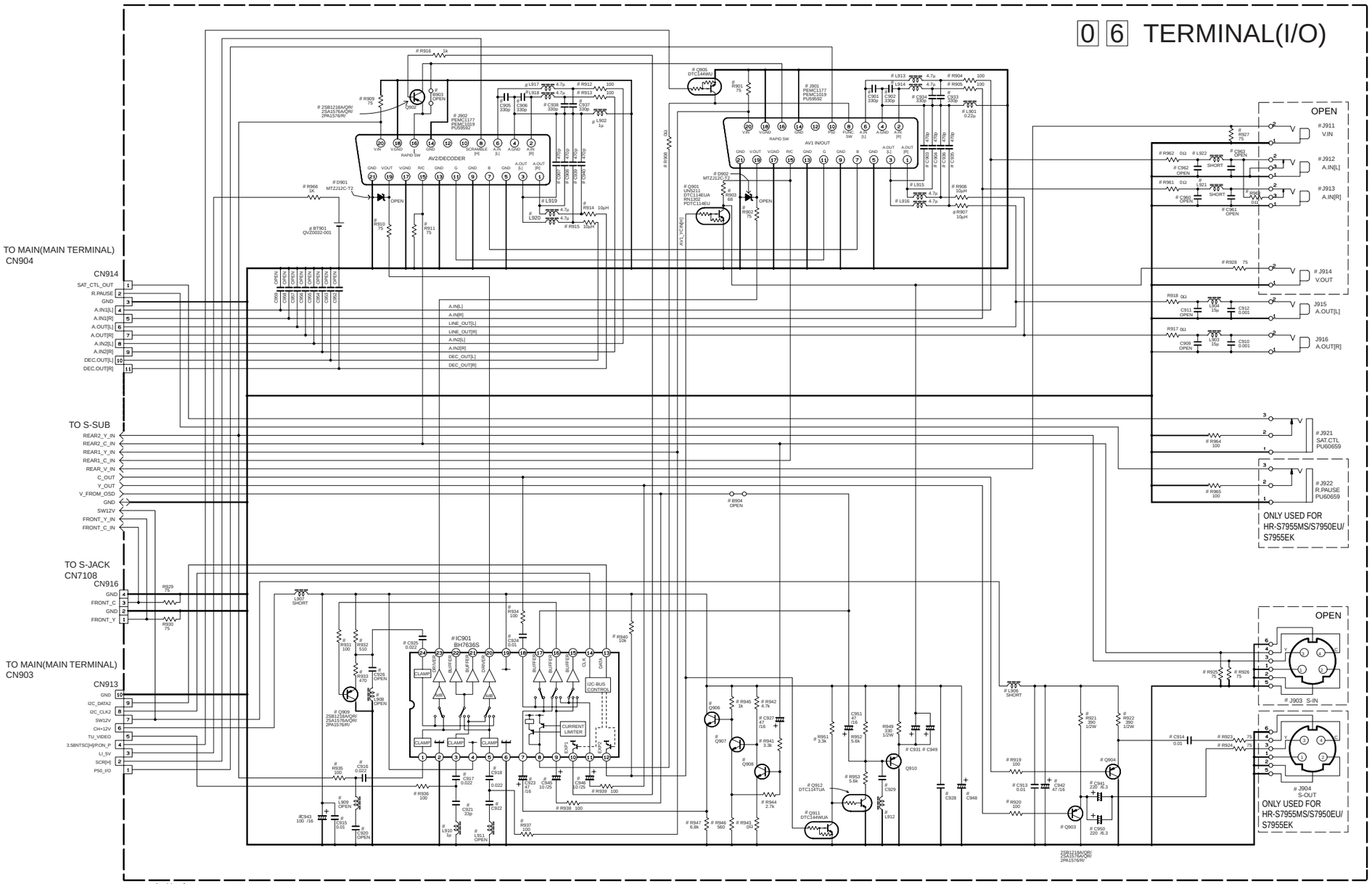
	CN511 C562 C564 C566	C563 RS27
MS	○	×
OTHERS	×	○

NOTES : UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN μF.
ELECTROLYTIC
CERAMIC
MY MYLER
N NON POLAR

p20213001a_rev0

4.14 TERMINAL (I/O) SCHEMATIC DIAGRAM

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



DIFFERENCE TABLE

O : Used
× : Not used

		CH+	REAR S-OUT	S-IN	REAR IN/OUT	SAT CTL	R.PAUSE	SW12VDECUP				CE/V-OUT DRIVER				BACK UP
		R901-R908, R909-R916, R931-R947, R951,R953 L901,L902 L908-L911, L913-L916, L917-L920, IC901, B903,B904 D901,D902 J901,J902	J904 R919-R924 C913,C914 C941,C942 C950 Q903,Q904 L906	J903 R925,R926	J911-J914 R927,R928 R961-R963 L921,L922 C960-C963	J921 R964	J922 R965	C915	C943	C928	C948	C929	L912	C931	C949	R966 BT901
EURO MODELS	WITHOUT REAR S-OUT	O	×	×	×	O	×	0.01	100/16	0.01	OPEN	OPEN	OPEN	10/25	OPEN	×
EURO MODELS	WITH REAR S-OUT	O	O	×	×	O	O	0.01	100/16	0.01	OPEN	OPEN	OPEN	10/25	OPEN	×
ARC MODELS		×	O	O	O	×	×	OPEN	OPEN	0.01	47/16	5.6k	SHORT	220/6.3	220/6.3	O

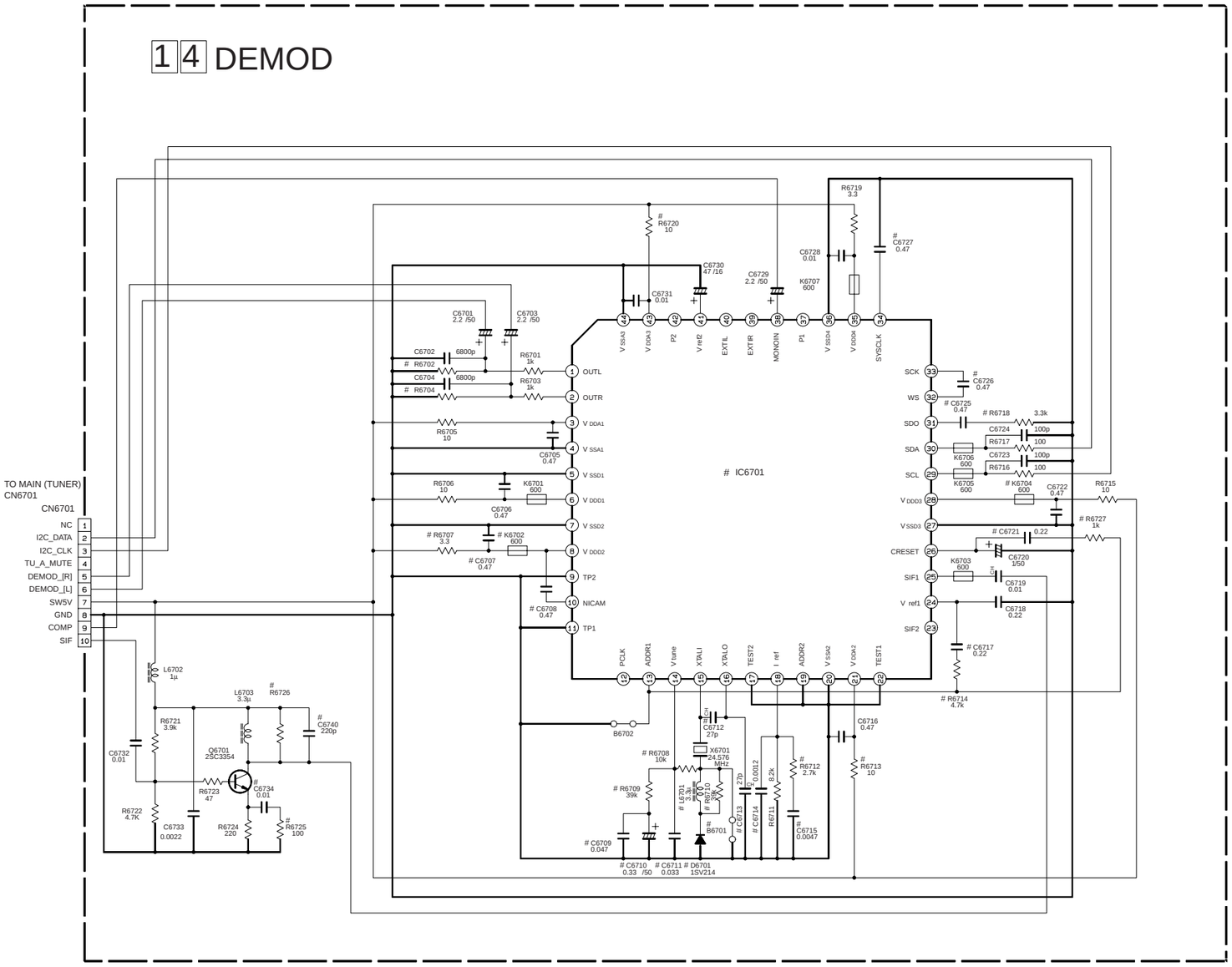
ALL NPN TYPE TRANSISTORS ARE 2SC4081/QRS/ or 2SD1819A/QRS/ or 2PC4081/R/.
ALL PNP TYPE TRANSISTORS ARE 2SA1576A/QR/ or 2SB1218A/QR/ or 2PA1576/R/.

NOTES:UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN μF.

ELECTROLYTIC
CERAMIC
MYLER
NON POLAR

4.15 DEMODULATOR SCHEMATIC DIAGRAM

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



DIFFERENCE TABLE

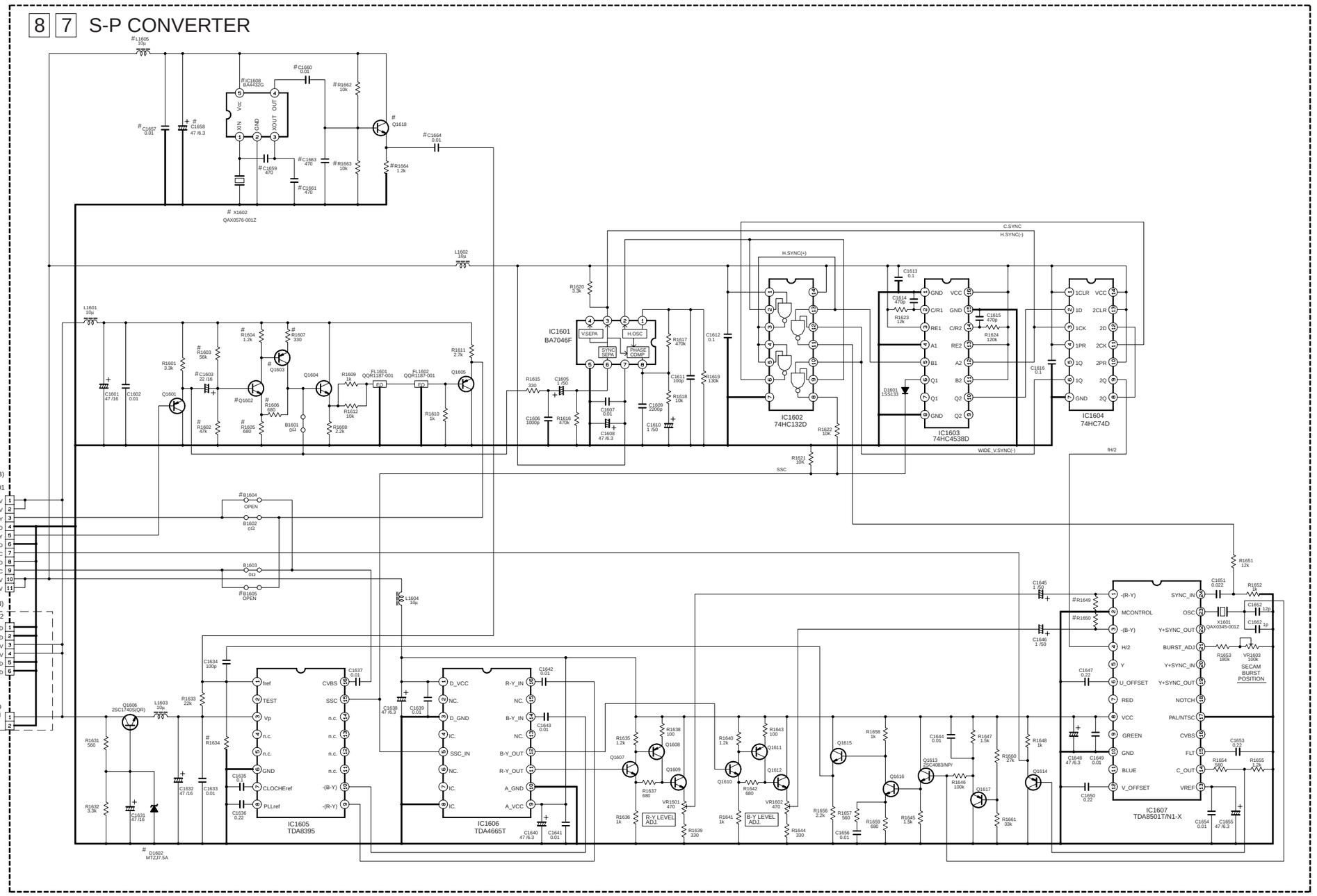
	V12 EK/ARC	V12 EU/MS	V13/V14
IC6701	TDA9874H	←	TDA9874AH
R6707	10	←	NOT USED
R6708	10k	←	0Ω
R6709	39k	←	NOT USED
R6710	39k	←	NOT USED
R6713	10	←	NOT USED
R6720	10	←	NOT USED
R6725	100	NOT USED	100
R6726	1k	2.2k	1k
C6707	0.47	←	NOT USED
C6710	0.33/50	←	NOT USED
C6711	0.033	←	NOT USED
C6712	27p	←	NOT USED
C6713	27p	←	0Ω
C6714	0.0012	←	NOT USED
C6734	0.01	NOT USED	0.01
C6740	NOT USED	220p	NOT USED
L6701	3.3µ	←	NOT USED
D6701	1SV214	←	NOT USED
K6702	600	←	NOT USED
R6702,R6704, R6712,R6714, R6717,R6718, C6708,C6709, C6715,C6717, C6721,C6725, C6726,C6727, B6701	NOT USED	←	←

NOTES:UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN µF.
ELECTROLYTIC
CERAMIC
MYLER
NON POLAR

p20130001a_rev1

4.16 S-P CONVERTER SCHEMATIC DIAGRAM [HR-S6955MS/S7955MS]

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



MARKED ELEMENTS ARE NOT MOUNTED.

ABOUT ## MARKED ELEMENTS

MODELS \ ELEMENTS	CN1601	CN1602
HR-S6955MS HR-S7955MS	1pin-11pin	NOT USED
VR1200/39	3pin-11pin	3pin-6pin

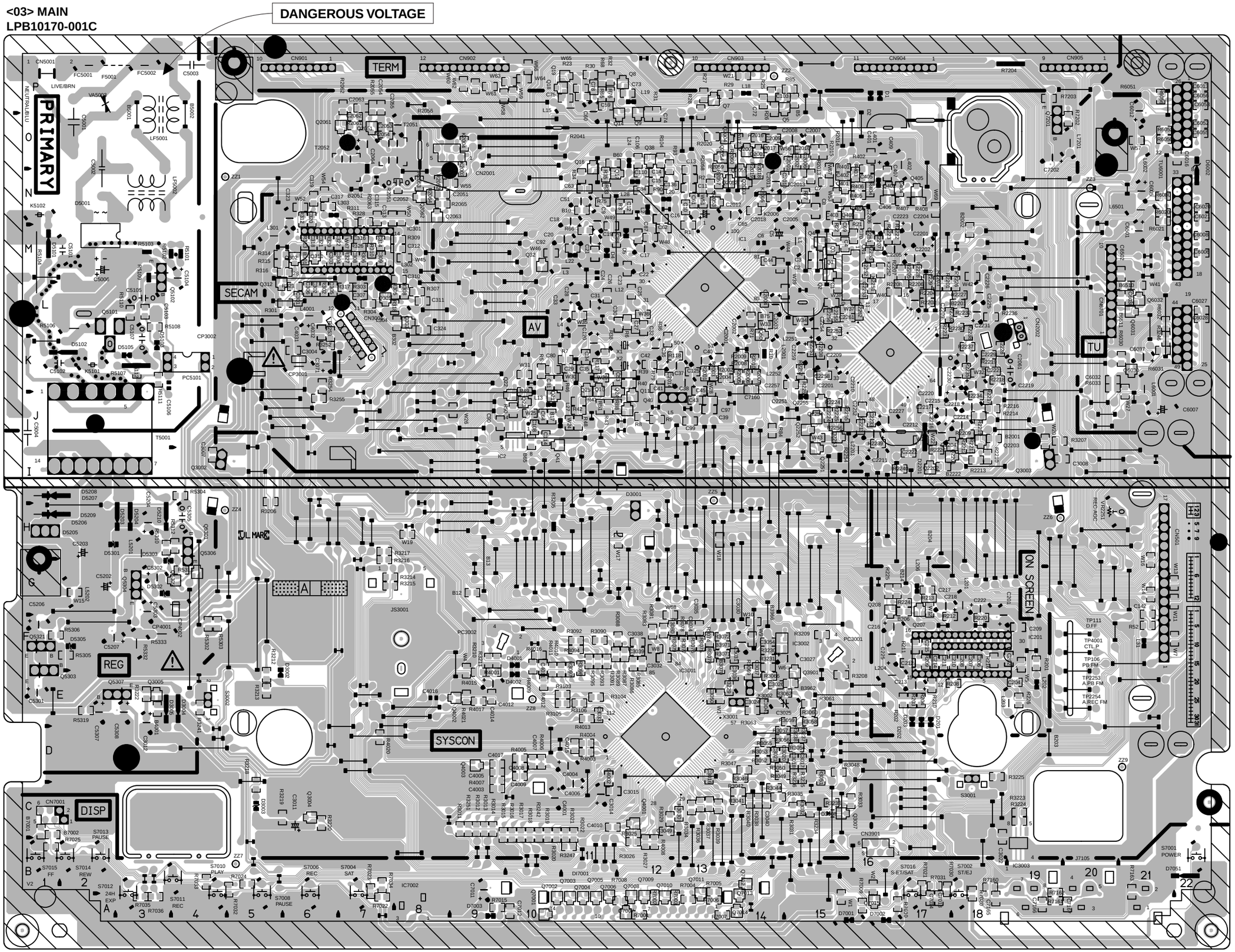
NOTES:UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN μF.

ELECTROLYTIC
CERAMIC
MYLER
NON POLAR

p20219001a_rev0

4.17 MAIN CIRCUIT BOARD

<03> MAIN
LPB10170-001C



COMPONENT PARTS LOCATION GUIDE <MAIN> LPB10170-001C

REF.NO.	LOCATION
CAPACITOR	
C1	B C 15L
C2	B C 15M
C3	B C 15M
C4	B C 16M
C5	A D 14M
C6	A D 14M
C7	B C 15N
C8	B C 15N
C9	A D 11M
C10	B C 13N
C11	B C 13N
C12	B C 12N
C13	B C 13N
C14	B C 12N
C15	B C 12N
C16	B C 12N
C17	A D 12M
C18	A D 11N
C19	A D 11M
C20	A D 11M
C21	B C 11M
C22	A D 12M
C23	B C 12M
C24	A D 11L
C25	B C 12L
C26	B C 11L
C27	B C 12L
C28	A D 11L
C29	B C 11K
C30	B C 12L
C31	A D 11L
C32	B C 12L
C33	A D 11L
C34	B C 11K
C35	B C 11K
C36	A D 12K
C37	A D 12K
C38	A D 13K
C39	B C 13J
C40	A D 13K
C41	B C 12K
C42	B C 12K
C43	B C 13J
C44	B C 14M
C45	B C 13K
C51	A D 11N
C53	B C 12K
C59	B C 11P
C60	A D 11P
C61	B C 13N
C62	B C 12M
C63	B C 11N
C64	B C 10J
C65	A D 14N
C69	B C 16M
C70	B C 16M
C72	B C 14P
C73	B C 12P
C74	B C 12O
C75	B C 11P
C78	B C 11P
C80	B C 10K
C81	B C 10K
C84	B C 12N
C87	B C 12M
C88	B C 11M
C90	B C 9J
C92	B C 11M
C97	B C 13J
C99	B C 13J
C103	B C 14P
C106	B C 12O
C108	B C 10J
C110	B C 12N
C114	B C 10J
C120	A D 11K
C125	B C 13K
C136	B C 12N
C142	B C 21F
C201	A D 18F
C202	B C 19F
C204	B C 19E
C206	B C 18F
C207	B C 18F
C208	B C 18F
C209	B C 19F
C210	B C 18F
C211	B C 17F
C212	B C 17F
C213	A D 17E
C214	B C 17F
C215	B C 17F
C216	A D 16F
C217	B C 17G
C218	A D 17G
C222	A D 18G
C225	A D 16F
C301	B C 6L
C302	B C 6L
C303	B C 6M
C304	B C 7M
C305	B C 6L
C306	B C 6L
C307	B C 7L
C308	B C 7M
C309	B C 7M
C310	B C 8M
C311	B C 8L
C312	B C 8M
C313	B C 7N
C314	B C 7M
C315	B C 7N
C316	B C 7M
C317	B C 6N
C318	B C 6M
C319	B C 6N
C320	B C 6N
C321	B C 6M
C322	B C 7M
C323	A D 6N
C324	B C 8L
C401	B C 16O
C402	B C 16N
C403	B C 15N
C404	B C 17N
C405	B C 16N
C406	B C 16N
C407	B C 16N
C409	A D 16O
C2001	A D 13K
C2002	A D 14L
C2003	A D 14L
C2004	B C 14L
C2005	A D 15N
C2006	B C 15O
C2007	A D 15O
C2008	A D 15O
C2009	B C 14O
C2010	B C 15N
C2011	A D 14N
C2012	A D 13N
C2013	B C 15N
C2014	B C 12K
C2016	B C 15O
C2017	B C 14O
C2018	B C 14N
C2051	B C 8N
C2052	A D 7N
C2053	B C 7O
C2054	B C 7P
C2055	A D 8O
C2061	A D 19K
C2062	B C 7O
C2063	B C 7P
C2064	A D 7O
C2201	A D 17M
C2202	A D 17M
C2203	A D 17L
C2204	A D 17M
C2205	A D 16M
C2206	A D 16M
C2207	B C 16M
C2208	B C 15K
C2209	A D 15K
C2210	A D 16K
C2211	A D 16I
C2212	A D 16J
C2213	B C 16J
C2214	A D 18J
C2215	A D 17J
C2216	A D 17J
C2217	B C 17J
C2218	A D 18J
C2219	A D 18K
C2220	A D 18J
C2221	B C 18K
C2222	B C 17I
C2223	B C 16M
C2224	B C 15J
C2225	A D 18L
C2226	A D 18L
C2227	A D 16J
C2228	B C 18K
C2229	B C 18K
C2230	A D 18K
C2231	A D 18K
C2232	B C 16J
C2233	B C 16J
C2251	B C 16M
C2252	B C 16M
C2253	B C 16L
C2254	A D 15L
C2255	B C 15L
C2256	B C 15L
C2257	B C 15K
C2258	B C 15K
C2259	A D 15K
C2261	B C 16L
C2262	B C 16L
C3004	B C 6K
C3007	B C 4I
C3008	B C 19I
C3011	A D 6C
C3012	A D 3E
C3014	A D 11C
C3015	B C 11C
C3016	B C 13D
C3017	B C 15D
C3018	B C 15D
C3020	B C 15D
C3021	B C 14D
C3022	B C 18C
C3024	B C 14E
C3025	A D 15E
C3026	B C 14E
C3027	A D 14F
C3030	A D 14F
C3031	B C 14F
C3032	B C 12F
C3033	B C 11E
C3034	B C 13F
C3035	B C 13F
C3036	B C 14E
C3037	B C 14F
C3038	B C 12F
C3039	B C 12F
C3040	B C 14C
C3041	B C 14E
C3049	B C 12C
C3050	B C 13E
C3054	B C 14F
C3071	A D 6K
C4001	A D 10C
C4002	B C 11D
C4003	B C 9C
C4004	A D 11D
C4005	B C 9D
C4006	A D 11C
C4007	B C 10D
C4008	B C 10D
C4009	B C 10D
C4010	B C 11C
C4011	B C 10F
C4012	A D 9E
C4014	B C 9E
C4015	B C 11D
C4016	A D 8E
C4017	B C 9D
C4031	A D 6L
C4032	B C 6L
C5001	A D 2P
C5002	A D 2N
C5003	A D 4P
C5004	A D 1J
C5006	A D 2M
C5101	A D 2M
C5102	A D 1K
C5103	B C 3L
C5104	A D 4M
C5105	A D 3L
C5106	A D 3J
C5107	A D 3L
C5202	A D 2G
C5203	A D 2H
C5204	A D 3H
C5206	A D 1F
C5207	A D 3F
C5301	A D 1E
C5302	A D 3G
C5303	A D 3G
C5305	A D 4H
C5307	A D 2E
C5308	A D 3E
C6005	A D 21N
C6006	B C 22M
C6007	A D 21J
C6008	B C 22M
C6012	A D 21O
C6013	B C 22P
C6016	B C 22O
C6020	B C 22N
C6021	B C 22N
C6027	B C 22L
C6028	B C 22L
C6032	B C 20K
C6037	A D 21K
C6038	B C 21L
C6052	B C 22O
C6053	B C 22P
C6055	B C 22O
C6056	B C 22P
C6501	A D 21M
C6502	B C 21M
C7011	A D 9A
C7012	B C 10A
C7013	B C 17A
C7014	B C 17A
C7160	B C 14K
C7165	B C 18A
C7166	B C 19A
C7167	B C 20A
C7202	A D 19O
CONNECTOR	
CN1	A D 16M
CN501	A D 21F
CN901	A D 6P
CN902	A D 10P
CN903	A D 14P
CN904	A D 17P
CN905	A D 20P
CN2001	A D 9O
CN2002	A D 19L
CN3001	A D 7L
CN3901	A D 16B
CN5001	A D 1P
CN6701	A D 20L
CN7001	A D 2C
DIODE	
D1	A D 16P
D2	A D 16P
D4	A D 11M
D5	A D 12N
D201	A D 17E
D202	A D 17E
D203	A D 17E
D2201	A D 17I
D2251	A D 15J
D3001	A D 12H
D3002	A D 5E
D3003	A D 5C
D3004	A D 4E
D3005	A D 3E
D3008	B C 15C
D4001	A D 10F
D4002	A D 10E
D5001	B C 2M
D5101	A D 1M
D5102	A D 2K
D5103	A D 3K
D5105	A D 3K
D5203	A D 3I
D5204	A D 3I
D5205	A D 1H
D5206	A D 2H
D5207	A D 2I
D5208	A D 2I
D5209	A D 2H
D5210	A D 3I
D5301	A D 2H
D5302	A D 4G
D5303	A D 4G
D5305	A D 2F
D6002	A D 22N
D7001	A D 16A
D7002	A D 16A
D7003	A D 9A
D7051	A D 22B
IC	
IC1	B C 13L
IC2	B C 10J
IC201	A D 19E
IC301	A D 6M
IC2201	B C 16K
IC3001	B C 12D
IC3002	B C 14F
IC3003	B C 19B
IC7002	A D 8A
JACK	
J7105	A D 20A
COIL	
L1	A D 15M
L2	A D 12N
L3	A D 10M
L4	A D 11L
L5	A D 13J
L12	A D 12L
L13	A D 10J
L15	A D 11P
L18	A D 14P
L19	A D 12P
L20	A D 12N
L22	A D 11M
L24	A D 12O
L27	A D 10J
L28	A D 12N
L31	A D 21F
L201	A D 18G
L202	A D 19E
L203	A D 19E
L204	A D 17E
L206	A D 17G
L301	A D 6M
L302	A D 7M
L303	A D 7N
L304	A D 8L
L401	A D 16N
L402	A D 17O
L2001	A D 14K
L2201	A D 16J
L2251	A D 14L
L2252	A D 15K
L4001	A D 6L
L5201	A D 3H
L5202	A D 2G
L6001	A D 21J
L6002	A D 21O
L6501	A D 21N
L7201	A D 20O
TRANSISTOR	
Q1	B C 15M
Q2	B C 15M
Q3	B C 15M
Q4	B C 15M
Q5	B C 15P
Q7	B C 13P
Q8	B C 12P
Q9	B C 12O
Q10	B C 11K
Q11	B C 12J
Q14	B C 12O
Q16	B C 11O
Q17	B C 12N
Q18	B C 10P
Q19	B C 11P
Q21	B C 10J
Q22	B C 10J
Q23	B C 10J
Q24	B C 12K
Q25	B C 11K
Q32	B C 10M
Q38	B C 12O
Q40	B C 12J
Q41	B C 10J
Q50	B C 14L
Q207	B C 17G
Q208	B C 16G
Q301	B C 7L
Q302	B C 6M
Q303	B C 8L
Q311	B C 6M
Q312	B C 5L
Q401	B C 16N
Q402	B C 16N
Q403	B C 16N
Q404	B C 16N
Q405	B C 17N
Q2001	B C 14O
Q2002	B C 14O
Q2003	B C 14N
Q2004	B C 13O
Q2051	B C 7O
Q2052	B C 14N
Q2053	B C 13N
Q2054	B C 13O
Q2055	B C 14N
Q2061	B C 7O
Q2062	B C 8N
Q2063	B C 8N
Q2201	B C 18I
Q2202	B C 17I
Q2203	B C 18J
Q2204	B C 18J
Q2251	B C 15I
Q2252	B C 15J
Q2253	B C 15J
Q2254	B C 15J
Q2255	B C 15J
Q3002	A D 5I
Q3003	A D 19I
Q3004	B C 6C
Q3005	B C 3E
Q3007	B C 16C
Q3901	B C 15E
Q4001	B C 12C
Q4002	B C 9E
Q4003	B C 9D
Q5101	A D 2L
Q5102	A D 3M
Q5301	A D 4G
Q5303	A D 1F
Q5304	A D 3G
Q5305	B C 4G
Q5306	B C 4G
Q5307	A D 3E
Q5321	A D 1F
Q6030	B C 21K
Q6031	B C 21L
Q6032	B C 21L
Q7001	B C 10A
Q7002	B C 10A
Q7003	B C 11A
Q7004	B C 11A
Q7005	B C 11A
Q7006	B C 11A
Q7007	B C 12A
Q7008	B C 12A
Q7009	B C 12A
Q7010	B C 12A
Q7011	B C 13A
Q7012	B C 14B
Q7013	B C 14A
Q7014	B C 14A
Q7015	B C 16A
Q7201	A D 19P
RESISTOR	
R1	B C 13M
R2	B C 13N
R3	B C 12N
R5	B C 10K
R6	B C 12L
R7	B C 11K
R8	B C 12J
R9	B C 12J
R10	A D 14K
R21	B C 16M
R22	B C 15M
R23	B C 11P
R25	B C 14P
R26	B C 14P
R27	B C 13P
R28	B C 13P
R29	B C 13P
R30	B C 11P
R31	B C 12O
R32	B C 11P
R33	B C 11N
R34	B C 11N
R35	B C 11N
R36	B C 12K
R38	B C 11K
R39	B C 12K
R40	B C 12K
R41	B C 11J
R42	B C 11J
R43	B C 11J
R46	B C 10K
R48	B C 11J
R49	B C 10K
R50	B C 10J
R51	B C 11J
R52	B C 21G
R65	B C 11P
R66	B C 11M
R68	B C 11P
R71	B C 14L
R75	B C 11N
R76	B C 11P
R77	B C 15N
R79	B C 12K
R84	B C 14J
R85	B C 15P
R88	B C 12J
R90	B C 12N
R93	B C 12O
R104	B C 12O
R117	B C 11K
R118	B C 13K
R201	B C 19F
R202	B C 17E
R203	B C 17E
R204	B C 17E
R208	B C 18E
R209	B C 17F
R210	B C 17E
R211	B C 17F
R212	B C 17F
R213	B C 17G
R216	B C 18F
R220	B C 18F
R224	B C 17G
R225	B C 16G
R226	B C 19E
R301	B C 6L
R302	B C 6L
R303	B C 7L
R304	B C 7L
R305	B C 8L
R306	B C 7M
R307	B C 8L
R308	B C 8L
R309	B C 8M
R310	B C 7M
R311	B C 7N
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R313	B C 6M
R314	B C 5M
R315	B C 5M
R316	B C 6M
R317	B C 7L
R318	B C 8L
R321	B C 6L
R326	B C 7M
R327	B C 7M
R328	B C 7N
R329	B C 6M
R401	B C 16O
R402	B C 16N
R403	B C 16N
R404	B C 16N
R405	B C 16N
R406	B C 16N
R407	B C 17N
R408	B C 17N
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R2005	B C 14K
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R2008	B C 14K
R2009	B C 14K
R2010	B C 14K
R2013	B C 15N
R2014	B C 15O
R2015	B C 15O
R2016	B C 14O
R2017	B C 14O
R2018	B C 14N
R2019	B C 14N
R2020	B C 13O
R2041	A D 11O
R2051	B C 8N
R2052	B C 8N
R2053	B C 8N
R2054	B C 7O
R2055	B C 7P
R2056	A D 8O
R2057	B C 13N
R2058	B C 13N
R2059	B C 13O
R2060	B C 14O
R2061	B C 7O
R2062	B C 7P
R2063	A D 7O
R2064	B C 8N
R2065	B C 8N
R2201	B C 17L
R2202	B C 17L
R2203	B C 17L
R2204	B C 17L
R2205	B C 17M
R2206	B C 17L
R2207	B C 17M
R2208	B C 17L
R2209	B C 18J
R2210	B C 18I
R2211	B C 18J
R2212	B C 18J
R2213	B C 18I
R2214	B C 18J
R2215	B C 18J
R2216	B C 18J
R2217	B C 18J
R2218	B C 18K
R2219	B C 18K
R2220	B C 17I
R2222	B C 17M
R2223	B C 16M
R2224	B C 15J
R2225	B C 15J
R2226	B C 18L
R2227	B C 18L
R2228	B C 17M
R2229	B C 17L
R2230	B C 18L
R2231	B C 17L
R2232	B C 18L
R2233	B C 17L
R2234	B C 18J
R2235	B C 18K
R2236	B C 18L
R2237	B C 18K
R2238	B C 18L
R2239	B C 16J
R2240	B C 17I
R2251	B C 15K
R2252	B C 15L
R2253	B C 15K
R2254	A D 16I
R2255	B C 16J
R2256	B C 15J
R2257	B C 15K
R3011	B C 9C
R3012	B C 9C
R3013	B C 9C
R3014	B C 9C
R3015	B C 9C
R3016	B C 10C
R3017	B C 10C
R3018	B C 10C
R3019	B C 10C
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R3021	B C 11C
R3022	B C 11C
R3025	B C 12C
R3026	B C 12B
R3027	B C 12B
R3029	B C 12C
R3030	B C 13C
R3031	B C 15C
R3032	B C 15C
R3033	B C 16C
R3034	B C 13C
R3035	B C 14C
R3036	B C 13C
R3037	B C 13C
R3038	B C 14C
R3039	B C 13C
R3040	B C 14C
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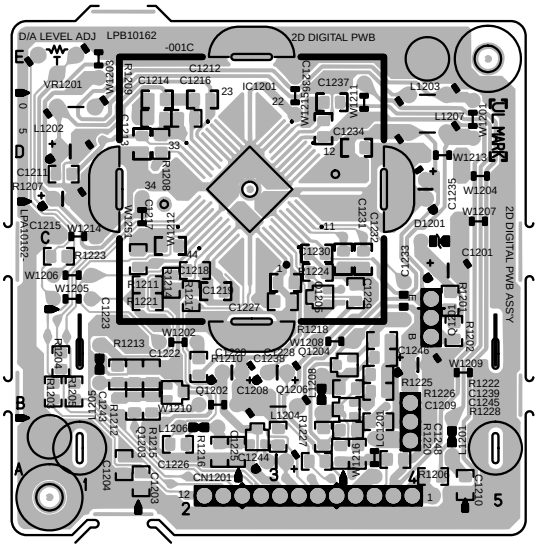
R3095	B C 11F
R3096	B C 11F
R3097	B C 11F
R3103	B C 11E
R3104	B C 11E
R3105	B C 11E
R3106	B C 11E
R3205	A D 10H
R3206	B C 5I
R3207	B C 19J
R3208	B C 16E
R3209	B C 15F
R3210	B C 9F
R3211	B C 9F
R3212	B C 5E
R3213	B C 5E
R3214	B C 7G
R3215	B C 7G
R3216	B C 7G
R3217	B C 7H
R3218	B C 5C
R3219	B C 6C
R3220	B C 6C
R3222	B C 3E
R3223	B C 19C
R3224	B C 19C
R3225	B C 18D
R3229	B C 14E
R3230	B C 14F
R3231	B C 14F
R3233	B C 15C
R3234	B C 15C
R3235	B C 15D
R3236	B C 15D
R3237	B C 15D
R3238	B C 15D
R3241	B C 4E
R3242	B C 10C
R3246	B C 21K
R3247	B C 11B
R3251	B C 9C
R3252	B C 6K
R3253	B C 6L
R3254	B C 6K
R3255	B C 6J
R4001	B C 9E
R4003	B C 11D
R4004	B C 11D
R4005	B C 10D
R4006	B C 10D
R4007	B C 9D
R4008	B C 12B
R4009	B C 10F
R4010	B C 11F
R4011	B C 10F
R4012	B C 10E
R4013	B C 11E
R4015	B C 9E
R4016	B C 10F
R4017	B C 9E
R4020	B C 7D
R4021	B C 9E
R5101	A D 4M
R5102	A D 4M
R5103	A D 3M
R5104	A D 1L
R5106	A D 2L
R5107	A D 3K
R5108	B C 3L
R5109	A D 3M
R5110	B C 3L
R5111	B C 3K
R5112	B C 3K
R5302	B C 4F
R5303	B C 4F
R5304	B C 4I
R5305	B C 2F
R5306	B C 1F
R5310	B C 3H
R5312	B C 4H
R5313	B C 4G
R5319	B C 2E
R5332	A D 3F
R5333	A D 3F
R6020	B C 21N
R6021	B C 21N
R6030	B C 21K
R6031	B C 21K
R6032	B C 21L
R6033	B C 20K
R6050	B C 21O
R6051	A D 21P
R6052	B C 21O
R6056	B C 21P
R6080	B C 21N
R7001	B C 12A
R7002	B C 12A
R7003	B C 13A
R7004	B C 13A
R7005	B C 13B
R7006	B C 13A
R7007	B C 13A
R7008	B C 12A
R7009	B C 16A
R7010	B C 17A
R7015	B C 9A
R7020	B C 18A
R7021	B C 17B
R7022	B C 7A
R7023	B C 7B
R7024	B C 5B
R7025	B C 1B
R7030	B C 17B
R7031	B C 17B
R7032	B C 5B
R7033	B C 4B
R7034	B C 7B
R7035	B C 3A
R7036	B C 3A
R7160	B C 18B
R7161	B C 19A
R7162	B C 19B
R7163	B C 21B
R7202	B C 20O
R7203	B C 19P
R7204	A D 19P
SWITCH	
S3001	A D 18C
S3002	A D 4E
S7001	A D 22B
S7002	A D 18B
S7004	A D 7B
S7006	A D 6B
S7008	A D 5B
S7010	A D 4B
S7011	A D 4B
S7012	A D 3B
S7013	A D 2B
S7014	A D 2B
S7015	A D 1B
S7016	A D 17B
TESTPOINT	
TP106	A D 19E
TP111	A D 19F
TP2253	A D 19E
TP2254	A D 19E
TP3901	B C 14D
TP3902	B C 13D
TP3903	B C 15E
TP3904	B C 13E
TP3905	B C 14E
TP3906	B C 14D
TP3907	B C 14D
TP3908	B C 15E
TP4001	A D 20F
OTHER	
CP3001	A D 6K
CP3002	B C 6K
CP4001	A D 3G
CP4002	B C 4G
DI7001	A D 12A
F5001	A D 2P
FC5001	A D 2P
FC5002	A D 3P
JS3001	A D 8G
K2001	B C 15O
K2002	B C 15O
K2003	B C 9N
K2004	B C 9O
K2005	B C 14N
K2006	B C 14N
K2251	B C 16L
K2252	B C 16M
K2253	B C 16M
K5101	A D 2K
K5102	A D 1N
LF5001	A D 4P
LF5002	A D 3N
PC3001	A D 15F
PC3002	A D 9F
PC5101	A D 4K
T2051	A D 7O
T2052	A D 6O
T5001	A D 1K
TU6001	A D 22P
VA5003	A D 2O
VR2251	A D 20H
X1	A D 12K
X2	A D 12K
X3001	A D 14E
X3002	A D 14E

4.18 2D DIGITAL AND 3D DIGITAL/2M CIRCUIT BOARDS

<05> 2D DIGITAL
LPB10162-001C

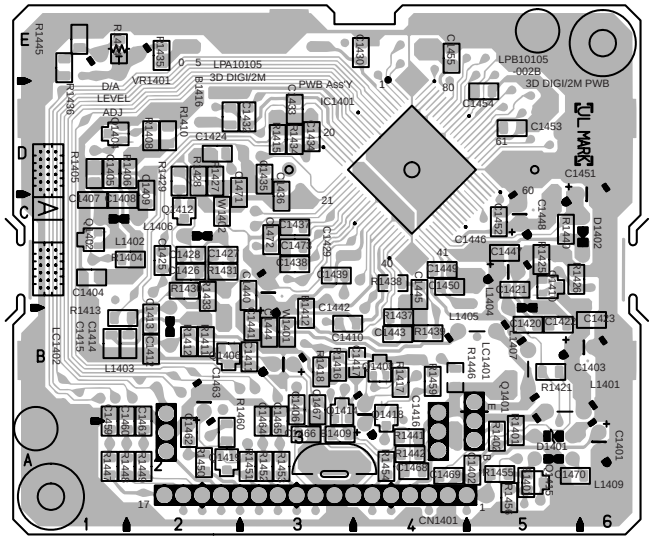


COMPONENT PARTS LOCATION GUIDE <2D DIGITAL>
LPB10162-001C

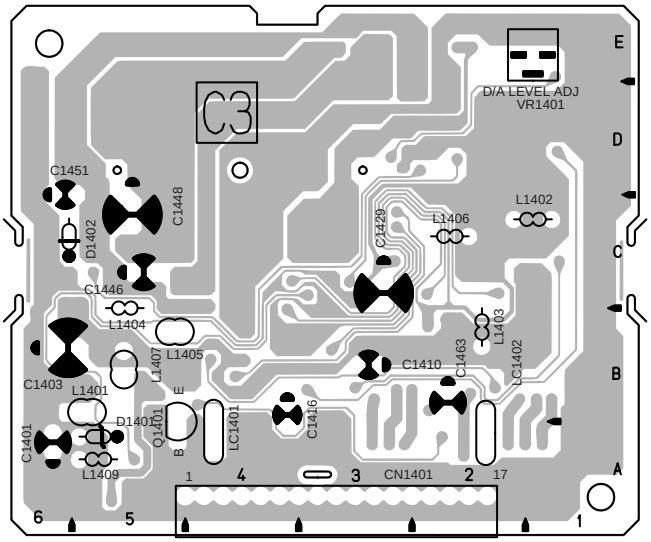
REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION
CAPACITOR		C1231	B C 3C	L1203	A D 4D	R1211	B C 2C
C1201	A D 4C	C1232	B C 4C	L1204	A D 3B	R1212	B C 2B
C1203	B C 2A	C1233	A D 4C	L1205	A D 1B	R1213	B C 2B
C1204	B C 1A	C1234	B C 4D	L1206	A D 2A	R1214	B C 2C
C1208	B C 3A	C1235	A D 4D	L1207	A D 4D	R1215	B C 3A
C1209	B C 4A	C1236	B C 3D	L1208	A D 3B	R1216	B C 2A
C1210	B C 5A	C1237	B C 3D	**TRANSISTOR**		R1217	B C 2C
C1211	A D 1D	C1238	B C 3B	Q1201	A D 4C	R1218	B C 3C
C1212	B C 2D	C1239	B C 4B	Q1202	B C 2B	R1220	B C 3A
C1213	B C 2D	C1243	B C 2B	Q1203	B C 3A	R1221	B C 2C
C1214	B C 2D	C1244	A D 3A	Q1204	B C 3B	R1222	B C 4B
C1215	A D 1C	C1245	B C 4B	Q1205	B C 3C	R1223	B C 1C
C1216	B C 2D	C1246	A D 4B	Q1206	B C 3B	R1224	B C 3C
C1217	B C 2C	C1248	B C 4A	**RESISTOR**		R1225	B C 3A
C1218	B C 2C	**CONNECTOR**		R1201	B C 4C	R1226	B C 4B
C1219	B C 2C	CN1201	A D 4A	R1202	B C 4B	R1227	B C 3A
C1220	A D 3B	**DIODE**		R1203	B C 1B	R1228	B C 4B
C1222	B C 2B	D1201	A D 4C	R1204	B C 1B	**OTHER**	
C1223	B C 1B	**IC**		R1205	B C 1B	LC1201	A D 4A
C1225	B C 2A	IC1201	B C 3D	R1206	B C 4A	VR1201	A D 1E
C1226	B C 2A	**COIL**		R1207	B C 1D		
C1227	B C 3C	L1201	A D 4B	R1208	B C 2D		
C1228	A D 3B	L1202	A D 1D	R1209	B C 2D		
C1229	B C 4C			R1210	B C 2B		
C1230	B C 3C						

<05> 3D DIGITAL/2M
LPB10105-002B

- FOIL SIDE (B) -



- COMPONENT SIDE (A) -

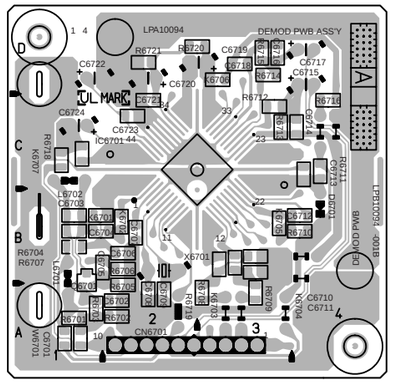


COMPONENT PARTS LOCATION GUIDE <3D DIGITAL/2M> LPB10105-002B

REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION
CAPACITOR		C1427	B C 2C	C1453	B C 5D	**IC**		Q1418	B C 4B	R1431	B C 2C	R1460	B C 2A
C1401	A D 6A	C1428	B C 2C	C1454	B C 5D	IC1401	B C 4D	Q1419	B C 2A	R1433	B C 2C		
C1402	B C 5A	C1429	A D 3C	C1455	B C 4E					R1434	B C 3D	**OTHER**	
C1403	A D 6B	C1430	B C 4E	C1459	B C 1B	**COIL**		**RESISTOR**		R1435	B C 2E	VR1401	A D 2E
C1404	B C 1C	C1432	B C 3D	C1460	B C 2B	L1401	A D 5B	R1401	B C 5A	R1436	B C 1E		
C1405	B C 1D	C1433	B C 3D	C1461	B C 2B	L1402	A D 2C	R1402	B C 5A	R1437	B C 4B		
C1406	B C 3B	C1434	B C 3D	C1462	B C 2A	L1403	A D 2B	R1404	B C 2C	R1438	B C 4C		
C1407	B C 1C	C1435	B C 3D	C1463	A D 2B	L1404	A D 5C	R1405	B C 1D	R1439	B C 4B		
C1408	B C 2C	C1436	B C 3C	C1464	B C 3B	L1405	A D 4B	R1406	B C 2D	R1440	B C 5C		
C1409	B C 2C	C1437	B C 3C	C1465	B C 3B	L1406	A D 2C	R1408	B C 2D	R1441	B C 4A		
C1410	A D 3B	C1438	B C 3C	C1466	B C 3A	L1407	A D 5B	R1410	B C 2D	R1442	B C 4A		
C1411	B C 3B	C1439	B C 3C	C1467	B C 3B	L1409	A D 5A	R1411	B C 2B	R1444	B C 2E		
C1412	B C 2B	C1440	B C 3C	C1468	B C 4A	LC1401	A D 4A	R1412	B C 2B	R1445	B C 1E		
C1413	B C 2B	C1441	B C 3B	C1469	B C 4A	LC1402	A D 2A	R1413	B C 2B	R1446	B C 4B		
C1414	B C 2B	C1442	B C 4B	C1470	B C 6A			R1415	B C 3D	R1447	B C 1A		
C1415	B C 1B	C1443	B C 4B	C1471	B C 3D	**TRANSISTOR**		R1416	B C 3B	R1448	B C 2A		
C1416	A D 4A	C1444	B C 3B	C1472	B C 3C	Q1401	A D 5B	R1417	B C 4B	R1449	B C 2A		
C1417	B C 4B	C1445	B C 4C	C1473	B C 3C	Q1402	B C 1C	R1418	B C 3B	R1450	B C 2A		
C1420	B C 5B	C1446	A D 5C			Q1404	B C 1D	R1421	B C 5B	R1451	B C 3A		
C1421	B C 5C	C1447	B C 5C	**CONNECTOR**		Q1406	B C 2B	R1425	B C 5C	R1452	B C 3A		
C1422	B C 5B	C1448	A D 5C	CN1401	A D 5A	Q1408	B C 4B	R1426	B C 6C	R1453	B C 3A		
C1423	B C 6B	C1449	B C 4C			Q1410	B C 5C	R1427	B C 2D	R1454	B C 4A		
C1424	B C 2D	C1450	B C 4C	**DIODE**		Q1412	B C 2C	R1428	B C 2D	R1455	B C 5A		
C1425	B C 2C	C1451	A D 6D	D1401	A D 6A	Q1414	B C 3B	R1429	B C 2D	R1456	B C 5A		
C1426	B C 2C	C1452	B C 5C	D1402	A D 6C	Q1415	B C 5A	R1430	B C 2C	R1459	B C 4B		

4.19 DEMODULATOR CIRCUIT BOARD

<14> DEMODULATOR
LPB10094-001C

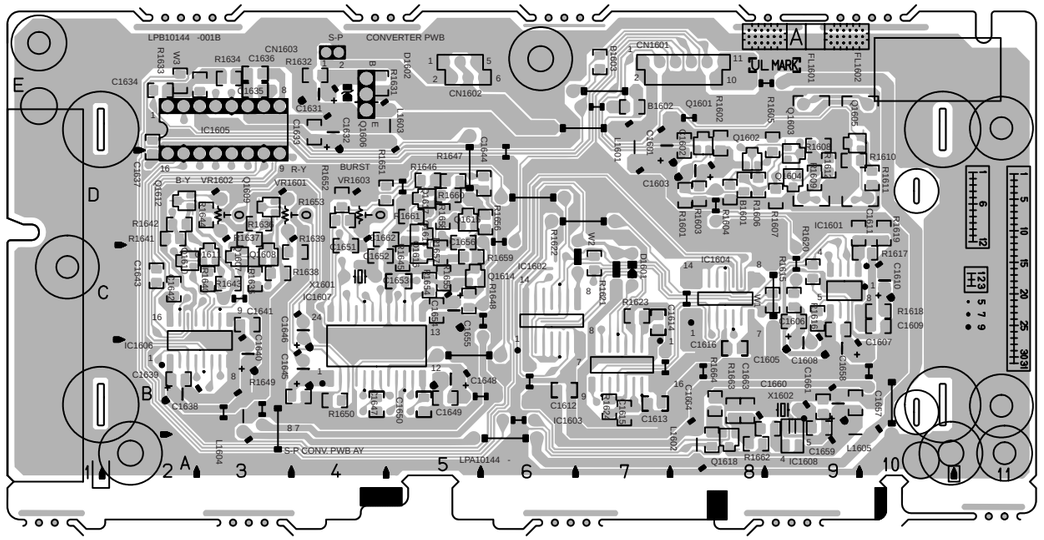


COMPONENT PARTS LOCATION GUIDE
<DEMODULATOR> LPB10094-001C

REF.NO.	LOCATION
CAPACITOR	
C1501	A D 4C
C1502	A D 3D
C1503	A D 4D
C1504	A D 4C
C1505	A D 3D
C1506	A D 3C
C1507	A D 2C
C1508	A D 1D
C1509	A D 2C
C1510	A D 1B
C1511	A D 1A
C1512	A D 2A
C1513	A D 2B
C1514	A D 2A
C1515	A D 3B
C1516	A D 3C
C1517	A D 3B
C1518	A D 3A
C1519	A D 3B
C1520	A D 3A
C1521	A D 2C
CONNECTOR	
CN1501	A D 3A
IC	
IC1501	B C 2C
TRANSISTOR	
Q1501	A D 3B
Q1502	A D 3B
RESISTOR	
R1501	A D 4C
R1502	A D 2C
R1503	A D 2C
R1504	A D 2B
R1505	A D 2B
R1506	A D 2B
R1507	A D 2B
R1508	A D 3B
R1509	A D 3B
R1510	A D 4B
R1511	A D 3A
R1514	A D 2B
R1515	A D 2C
R1517	A D 2C

4.20 S-P CONVERTER CIRCUIT BOARD [HR-S6955MS/S7955MS]

<87> S-P CONVERTER
LPB10144-001B

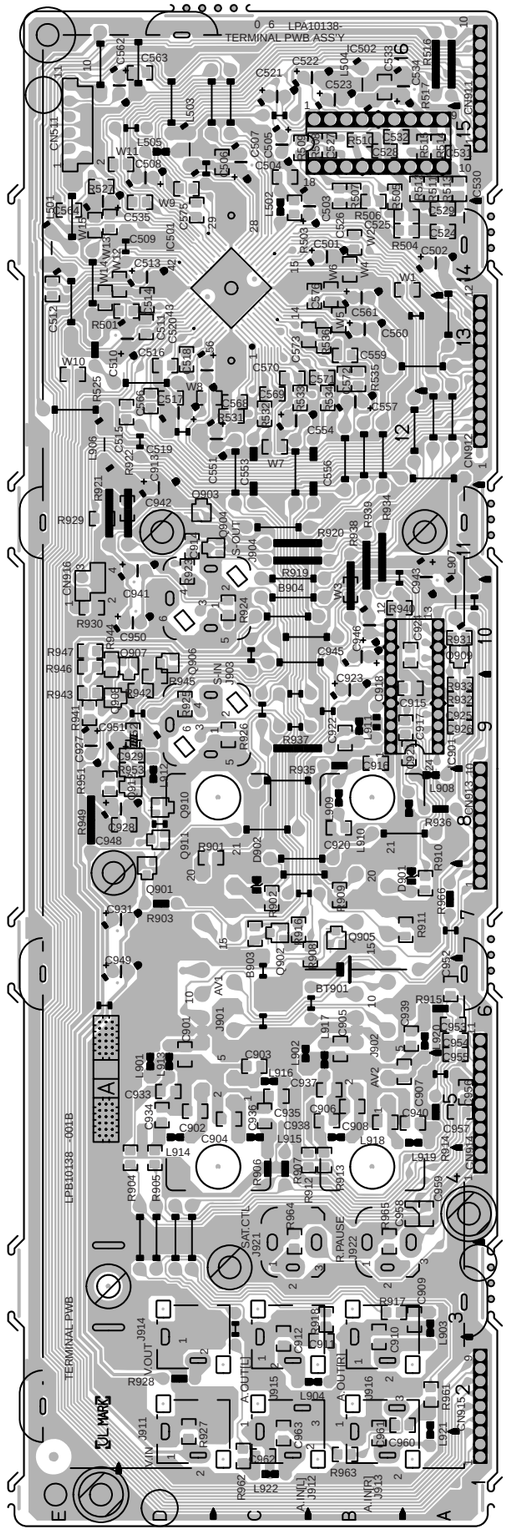


COMPONENT PARTS LOCATION GUIDE <S-P CONVERTER> LPB10144-001B

REF.NO.	LOCATION
CAPACITOR	
C1601	A D 7E
C1602	B C 8E
C1603	A D 8D
C1605	A D 9C
C1606	B C 9C
C1607	B C 9C
C1608	A D 9B
C1609	B C 10C
C1610	A D 10C
C1611	B C 9D
C1612	B C 6B
C1613	B C 7B
C1614	B C 7C
C1615	B C 7B
C1616	B C 8B
C1631	A D 4E
C1632	A D 4E
C1633	B C 4E
C1634	B C 2E
C1635	B C 3E
C1636	B C 3E
C1637	B C 2E
C1638	A D 2B
C1639	B C 2B
C1640	A D 3B
C1641	B C 3C
C1642	B C 2C
C1643	B C 2C
C1644	B C 6D
C1645	A D 4B
C1646	A D 4C
C1647	B C 4B
C1648	A D 5B
C1649	B C 5B
C1650	B C 5B
C1651	B C 4D
C1652	B C 4C
C1653	B C 5C
C1654	B C 5C
C1655	A D 5C
C1656	B C 5D
C1657	B C 9B
C1658	A D 9B
C1659	B C 9B
C1660	B C 9B
C1661	B C 9B
C1662	B C 5D
C1663	B C 8B
C1664	B C 8B
CONNECTOR	
CN1601	A D 7F
CN1602	A D 5F
CN1603	A D 4F
DIODE	
D1601	A D 7C
D1602	A D 4E
IC	
IC1601	B C 9C
IC1602	B C 6C
IC1603	B C 7B
IC1604	B C 8C
IC1605	A D 2E
IC1606	B C 3C
IC1607	B C 4C
IC1608	B C 9B
COIL	
L1601	A D 7E
L1602	A D 8A
L1603	A D 5E
L1604	A D 3B
L1605	A D 10B
TRANSISTOR	
Q1601	B C 8E
Q1602	B C 8D
Q1603	B C 9E
Q1604	B C 9D
Q1605	B C 9E
Q1606	A D 4E
Q1607	B C 3C
Q1608	B C 3C
Q1609	B C 3D
Q1610	B C 2C
Q1611	B C 3C
Q1612	B C 2D
Q1613	B C 5D
Q1614	B C 5C
Q1615	B C 5D
Q1616	B C 5C
Q1617	B C 5D
Q1618	B C 8B
RESISTOR	
R1601	B C 8D
R1602	B C 8E
R1603	B C 8D
R1604	B C 8D
R1605	B C 9E
R1606	B C 8D
R1607	B C 9D
R1608	B C 9E
R1609	B C 9D
R1610	B C 9D
R1611	B C 10D
R1612	B C 9D
R1615	B C 9C
R1616	B C 9C
R1617	B C 10C
R1618	B C 10C
R1619	B C 10D
R1620	B C 9C
R1621	A D 7C
R1622	A D 7C
R1623	B C 7C
R1624	B C 7B
R1631	B C 4E
R1632	B C 4E
R1633	B C 3E
R1634	B C 3E
R1635	B C 3C
R1636	B C 3D
R1637	B C 3D
R1638	B C 3C
R1639	B C 4C
R1640	B C 3C
R1641	B C 2D
R1642	B C 2D
R1643	B C 3C
R1644	B C 3D
R1645	B C 5C
R1646	B C 5D
R1647	B C 5D
R1648	B C 5C
R1649	B C 4B
R1650	B C 4B
R1651	B C 5D
R1652	B C 4D
R1653	B C 4D
R1654	B C 5C
R1655	B C 5C
R1656	B C 6D
R1657	B C 5C
R1658	B C 5D
R1659	B C 5C
R1660	B C 5D
R1661	B C 5D
R1662	B C 8A
R1663	B C 8B
R1664	B C 8B
VR1601	A D 3D
VR1602	A D 3D
VR1603	A D 4D
OTHER	
FL1601	A D 9D
FL1602	A D 10E
X1601	A D 4C
X1602	A D 9B

4.21 TERMINAL CIRCUIT BOARD

<06> TERMINAL
LPB10138-001B



COMPONENT PARTS LOCATION GUIDE
<TERMINAL> LPB10138-001B

REF.NO.	LOCATION
CAPACITOR	
C501	A D 14B
C502	A D 14A
C503	A D 14B
C504	B C 15C
C505	A D 15C
C506	B C 15C
C507	A D 15C
C508	A D 15D
C509	A D 14E
C510	A D 13D
C511	B C 13D
C512	B C 14E
C513	A D 14D
C514	B C 13D
C515	B C 12D
C516	B C 13D
C517	B C 12D
C518	B C 13D
C519	A D 12D
C520	A D 13D
C521	A D 16C
C522	A D 16C
C523	A D 16B
C524	B C 14A
C525	B C 14A
C526	B C 15B
C527	B C 15B
C528	B C 15B
C529	B C 14A
C530	B C 15A
C531	B C 15A
C532	B C 15B
C533	B C 16B
C534	A D 16A
C535	B C 14D
C551	A D 12C
C553	A D 12C
C554	A D 12C
C556	A D 12B
C557	A D 12B
C559	B C 13B
C560	A D 13B
C561	A D 13B
C562	A D 16D
C563	B C 16D
C564	B C 14E
C566	B C 12D
C568	B C 12C
C569	B C 12C
C570	B C 13C
C571	B C 13B
C572	B C 13B
C573	B C 13B
C575	B C 14D
C576	B C 13B
C901	B C 5D
C902	B C 5D
C903	B C 5C
C904	B C 5C
C905	B C 6B
C906	B C 5B
C907	B C 5A
C908	B C 5B
C909	B C 3A
C910	B C 3B
C911	B C 2B
C912	B C 2C
C913	B C 11D
C914	B C 11D
C915	B C 9A
C916	B C 9B
C917	B C 9A
C918	A D 9B
C920	B C 8B
C921	B C 9A
C922	B C 9B
C923	A D 9B
C924	B C 10A
C925	B C 9A
C926	B C 9A
C927	A D 9E
C928	B C 8D
C929	B C 9D
C931	A D 7E
C933	B C 5D
C934	B C 5D
C935	B C 5C
C936	B C 5C
C937	B C 5B
C938	B C 5B
C939	B C 6A
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C941	A D 11D
C942	A D 11D
C943	A D 11A
C945	A D 10B
C946	A D 10B
C948	A D 8E
C949	A D 6E
C950	A D 10D
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C955	B C 5A
C956	B C 5A
C957	B C 5A
C958	B C 4A
C959	B C 4A
C960	B C 2B
C961	B C 1B
C962	B C 1C
C963	B C 1C
CONNECTOR	
CN511	A D 15E
CN911	A D 15A
CN912	A D 12A
CN913	A D 7A
CN914	A D 4A
CN915	A D 1A
CN916	A D 10E
DIODE	
D901	A D 8A
D902	A D 7C
IC	
IC501	B C 14C
IC502	A D 15B
IC901	A D 9B
JACK	
J901	A D 6C
J902	A D 6B
J903	A D 9D
J904	A D 10D
J911	A D 2D
J912	A D 2C
J913	A D 2B
J914	A D 3D
J915	A D 3C
J916	A D 3B
J921	A D 4C
J922	A D 4B
COIL	
L501	A D 14E
L502	A D 14C
L503	A D 15D
L504	A D 16B
L505	A D 15D
L901	A D 5D
L902	A D 5C
L903	A D 3A
L904	A D 2B
L906	A D 12E
L907	A D 10A
L908	A D 8A
L909	A D 8B
L910	A D 8A
L911	A D 9B
L912	A D 8D
L913	A D 6D
L914	A D 5D
L915	A D 5C
L916	A D 5C
L917	A D 6B
L918	A D 5B
L919	A D 5B
L920	A D 5A
L921	A D 2A
L922	A D 1C
TRANSISTOR	
Q901	B C 7D
Q902	B C 7C
Q903	B C 11D
Q904	B C 11D
Q905	B C 7B
Q906	B C 10D
Q907	B C 10D
Q908	B C 9E
Q909	B C 10A
Q910	B C 8D
Q911	B C 8D
Q912	B C 8D
RESISTOR	
R501	B C 13D
R503	B C 14C
R504	B C 14A
R505	B C 15B
R506	B C 14B
R507	B C 15B
R508	B C 15B
R509	B C 15C
R510	B C 15B
R511	B C 15A
R512	B C 15A
R513	B C 15A
R514	B C 15A
R515	B C 15A
R516	A D 16A
R517	A D 16A
R525	A D 13E
R527	B C 15E
R531	B C 12C
R532	B C 12C
R533	B C 12C
R534	B C 12B
R535	B C 13B
R536	B C 13B
R901	B C 8D
R902	B C 7C
R903	A D 7D
R904	B C 4D
R905	B C 4D
R906	A D 4C
R907	A D 4C
R908	B C 7B
R909	B C 7B
R910	B C 7A
R911	B C 7A
R912	B C 4B
R913	B C 4B
R914	A D 5A
R915	A D 6A
R916	B C 7C
R917	B C 3B
R918	B C 3B
R919	A D 11B
R920	A D 11B
R921	A D 11E
R922	A D 11D
R923	B C 11D
R924	B C 10C
R925	B C 9D
R926	B C 9C
R927	B C 2D
R928	A D 2D
R929	B C 11E
R930	B C 10E
R931	B C 10A
R932	B C 9A
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R938	A D 11B
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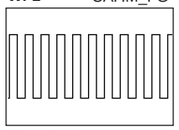
R945	B C 9D
R946	B C 10E
R947	B C 10E
R949	A D 8E
R951	B C 8E
R952	B C 9D
R953	B C 8D
R961	B C 2A
R962	B C 1C
R963	B C 1B
R964	B C 4C
R965	B C 4B
R966	A D 7A
OTHER	
BT901	A D 6B

4.22 WAVEFORMS

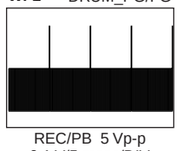
< SYSCON >

WF1 CN3001-1 CAP.M_FG



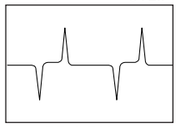
REC/PB 4.6 Vp-p
0.1 V/0.5 msec/DIV

WF2 CN3001-11 DRUM_PG/FG



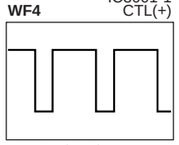
REC/PB 5 Vp-p
0.1 V/5 msec/DIV

WF3 TP4001 CTL.P



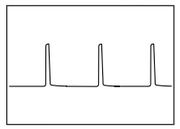
PB 2.7 Vp-p
50 mV/5 msec/DIV

WF4 IC3001-1 CTL(+)



REC 4.2 Vp-p
0.1 V/5 msec/DIV

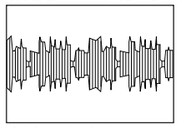
WF5 IC3001-98 C.SYNC



REC/PB 2.2 Vp-p
0.1 V/20 µsec/DIV

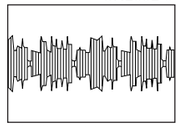
< S-P CONVERTER >

WF1-1 CN1601-9



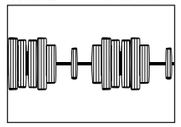
SECAM REC 0.46 Vp-p
10 mV/20 µsec/DIV

WF1-2 CN1601-9



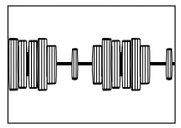
SECAM PB 0.4 Vp-p
10 mV/20 µsec/DIV

WF2-1 CN1601-7



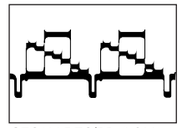
SECAM REC 0.52 Vp-p
10 mV/20 µsec/DIV

WF2-2 CN1601-7



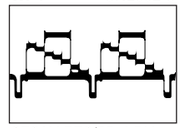
SECAM PB 0.68 Vp-p
10 mV/20 µsec/DIV

WF3 CN1601-5



SECAM REC/PB 1.0 Vp-p
20 mV/20 µsec/DIV

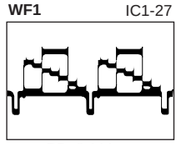
WF4 CN1601-3



SECAM REC/PB 1.5 Vp-p
10 mV/20 µsec/DIV

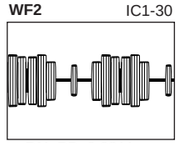
< VIDEO >

WF1 IC1-27



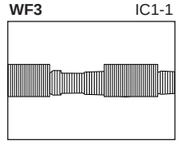
PB 2.1 Vp-p
50 mV/20 µsec/DIV

WF2 IC1-30



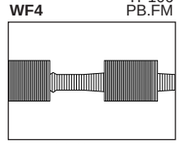
PAL PB 0.68 Vp-p
20 mV/20 µsec/DIV

WF3 IC1-1



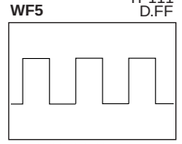
PB 0.3 Vp-p
20 mV/5 msec/DIV

WF4 TP106 PB.FM



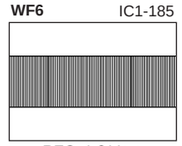
PB 0.5 Vp-p
20 mV/5 msec/DIV

WF5 TP111 D.FF



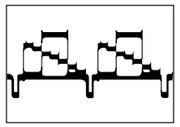
REC/PB 3.4 Vp-p
0.1 V/10 msec/DIV

WF6 IC1-185



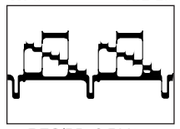
REC 1.8 Vp-p
0.1 V/1 msec/DIV

WF7 IC1-14



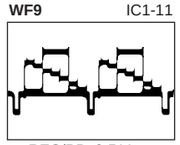
PB 0.5 Vp-p
20 mV/20 µsec/DIV

WF8 IC1-13



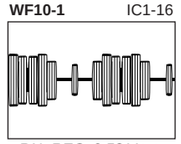
REC/PB 0.5 Vp-p
20 mV/20 µsec/DIV

WF9 IC1-11



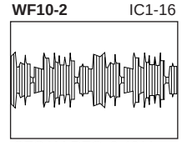
REC/PB 0.5 Vp-p
20 mV/20 µsec/DIV

WF10-1 IC1-16



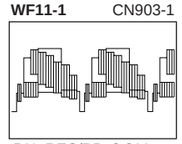
PAL REC 0.58 Vp-p
20 mV/20 µsec/DIV

WF10-2 IC1-16



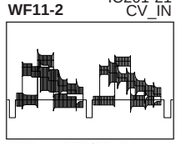
SECAM REC 0.46 Vp-p
10 mV/20 µsec/DIV

WF11-1 CN903-1



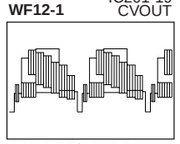
PAL REC/PB 2.2 Vp-p
50 mV/20 µsec/DIV

WF11-2 IC201-21 CV_IN



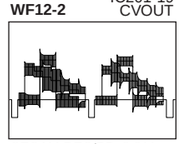
SECAM REC/PB 2.3 Vp-p
50 mV/20 µsec/DIV

WF12-1 IC201-19 CVOUT



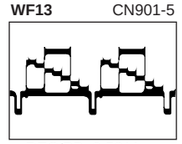
PAL REC/PB 2.2 Vp-p
50 mV/20 µsec/DIV

WF12-2 IC201-19 CVOUT



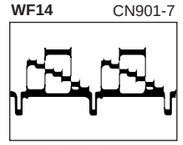
SECAM REC/PB 2.3 Vp-p
50 mV/20 µsec/DIV

WF13 CN901-5



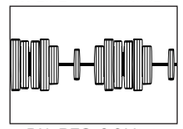
REC/PB 0.52 Vp-p
20 mV/20 µsec/DIV

WF14 CN901-7



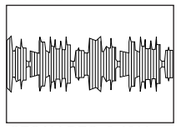
PB 0.5 Vp-p
20 mV/20 µsec/DIV

WF15-1 CN901-9



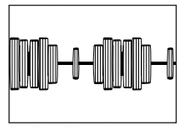
PAL REC 0.6 Vp-p
20 mV/20 µsec/DIV

WF15-2 CN901-9



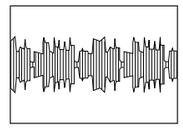
SECAM REC 0.46 Vp-p
10 mV/20 µsec/DIV

WF16-1 CN905-9



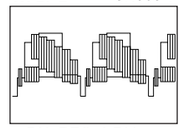
PAL PB 1.3 Vp-p
50 mV/20 µsec/DIV

WF16-2 CN905-9



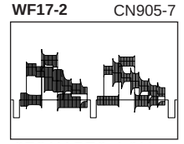
SECAM PB 0.9 Vp-p
50 mV/20 µsec/DIV

WF17-1 CN905-7



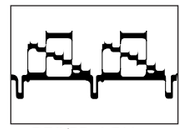
PAL REC 1.7 Vp-p
50 mV/20 µsec/DIV

WF17-2 CN905-7



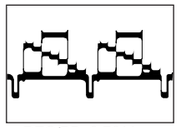
SECAM REC 1.8 Vp-p
50 mV/20 µsec/DIV

WF17-4 CN905-7



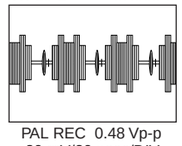
REC/PB 1.7 Vp-p
50 mV/20 µsec/DIV

WF18 CN905-5



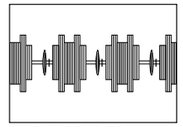
REC/PB 0.76 Vp-p
20 mV/20 µsec/DIV

WF19-1 CN905-3



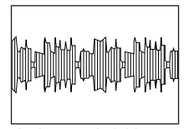
PAL REC 0.48 Vp-p
20 mV/20 µsec/DIV

WF19-2 CN905-3



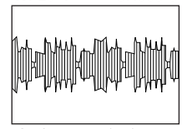
PAL PB 0.7 Vp-p
20 mV/20 µsec/DIV

WF19-3 CN905-3



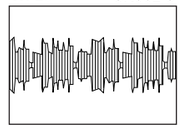
SECAM REC 0.36 Vp-p
10 mV/20 µsec/DIV

WF19-4 CN905-3



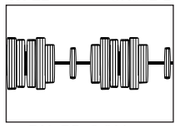
SECAM PB 0.46 Vp-p
10 mV/20 µsec/DIV

WF20 CN902-3



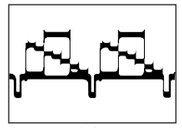
SECAM PB 0.38 Vp-p
10 mV/20 µsec/DIV

WF21 CN902-1



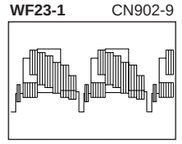
PAL PB 0.6 Vp-p
20 mV/20 µsec/DIV

WF22 CN902-5



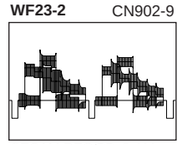
PB 2.2 Vp-p
50 mV/20 µsec/DIV

WF23-1 CN902-9



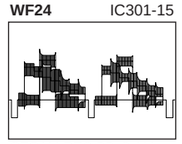
PAL REC/PB 2.2 Vp-p
50 mV/20 µsec/DIV

WF23-2 CN902-9



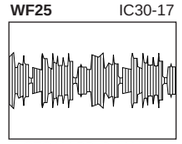
SECAM REC/PB 2.4 Vp-p
50 mV/20 µsec/DIV

WF24 IC301-15



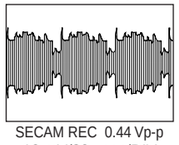
SECAM REC/PB 2.4 Vp-p
50 mV/20 µsec/DIV

WF25 IC30-17



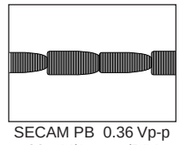
SECAM PB 0.44 Vp-p
20 mV/20 µsec/DIV

WF26 IC301-11



SECAM REC 0.44 Vp-p
10 mV/20 µsec/DIV

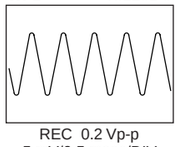
WF27 IC301-13



SECAM PB 0.36 Vp-p
20 mV/1 msec/DIV

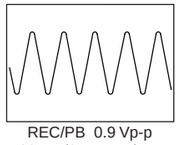
< AUDIO >

WF1 IC2201-9



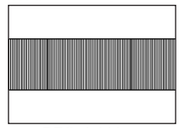
REC 0.2 Vp-p
5 mV/0.5 msec/DIV

WF2 IC2201-53



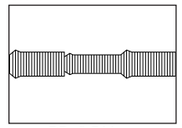
REC/PB 0.9 Vp-p
20 mV/0.5 msec/DIV

WF3 IC2201-21



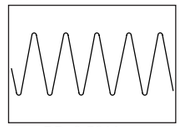
REC 1.1 Vp-p
0.1 V/5 msec/DIV

WF4 TP2253 A.PB.FM



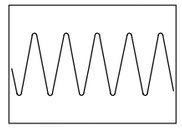
PB 0.5 Vp-p
50 mV/5 msec/DIV

WF5 IC1-53



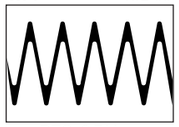
PB 0.58 Vp-p
10 mV/0.5 msec/DIV

WF6 IC1-63



REC 0.11 Vp-p
2 mV/0.5 msec/DIV

WF7 IC1-99



REC 0.7 Vp-p
20 mV/0.5 msec/DIV

4.23 VOLTAGE CHARTS

MODE PIN NO.	REC	PLAY
IC1		
1	1.5	2.3
2	2.8	2.8
3	2.6	2.6
4	1.9	1.5
5	1.9	1.5
6	2.4	2.1
7	1.4	0.8
8	0	0
9	2.6	3.1
10	2.3	2.3
11	3.1	3.1
12	2.8	2.8
13	3.1	3.1
14	2.3	2.3
15	0	0
16	2.8	2.8
17	1.4	1.4
18	2.8	2.8
19	2.8	2.8
20	2.8	2.8
21	2.0	2.0
22	2.8	2.8
23	2.8	2.8
24	5.0	5.0
25	0.4	0.4
26	0	0
27	2.3	2.3
28	2.3	2.3
29	1.9	1.9
30	2.1	2.1
31	0	0
32	2.5	2.5
33	5.0	5.0
34	2.7	2.3
35	5.0	5.0
36	2.5	0
37	2.3	2.3
38	-	-
39	1.2	1.2
40	-	-
41	2.5	2.5
42	-	-
43	0	0
44	2.2	2.2
45	4.6	4.6
46	4.9	4.6
47	2.9	2.9
48	2.6	2.6
49	5.0	5.0
50	2.5	2.5
51	2.8	2.8
52	0	0
53	2.6	2.6
54	0	0
55	0	0
56	0	0
57	0	0
58	0	0
59	0	0
60	0	0
61	0	0
62	0	0
63	0	0
64	0	0
65	2	2
66	0	0
67	0	0
68	0	0
69	0	0
70	0	0
71	0	0
72	0	0
73	3.1	3.1
74	0	0
75	0	0
76	0	0
77	0	0
78	0	0
79	5.0	5.0
80	5.0	5.0
81	0	0
82	0	0
83	0	0
84	2.2	2.2
85	2.4	2.4
86	2.2	2.2
87	5.0	5.0
88	0	0
89	0	0

MODE PIN NO.	REC	PLAY
90	0	0
91	0	4.0
92	2.6	2.6
93	0.8	0.5
94	0	0
95	2.5	2.5
96	2.5	2.5
97	2.5	2.5
98	0	0
99	2.5	2.5
100	0	0
IC201		
1	0	0
2	2.5	2.5
3	4.9	4.9
4	0	0
5	4.4	4.4
6	2.4	2.4
7	2.4	2.4
8	4.9	4.9
9	3.3	3.3
10	4.2	4.2
11	1.6	1.6
12	4.9	4.9
13	2.7	2.7
14	2.7	2.7
15	0	0
16	1.2	1.2
17	0	0
18	4.9	4.9
19	2.3	2.3
20	0	0
21	2.3	2.3
22	0.5	0.5
23	4.9	4.9
24	2.9	2.9
25	2.5	2.5
26	4.9	4.9
27	4.6	4.6
28	3.5	3.5
29	4.9	4.9
30	4.9	4.9
IC301[HR-S6955MS/S7955MS]		
1	0.2	0.2
2	1.9	1.9
3	3.8	3.8
4	0.4	0.4
5	0	0
6	3.1	3.1
7	0	0
8	2.4	2.4
9	2.4	2.4
10	2.2	2.2
11	2.4	0
12	4.4	4.4
13	2.4	2.4
14	3	1.9
15	2.7	2.7
16	0.3	4.9
17	0.2	2.5
18	2.2	2.2
19	2.3	2.3
20	2.4	2.4
21	2.4	2.4
22	4.8	4.8
23	3.1	3.1
24	3.1	3.1
25	2.7	2.7
26	0	0
27	0.4	0.4
28	0.3	0.3
IC2201		
1	2.3	2.3
2	0	0
3	2.3	2.3
4	0	0
5	0	0
6	2.4	2.4
7	2.0	2.0
8	0	0
9	0	0
10	0	0
11	0	0
12	2.0	2.0
13	0	0
14	0	0
15	0	0
16	2.4	2.4
17	0.5	0.5
18	2.4	2.4

MODE PIN NO.	REC	PLAY
19	2.4	2.4
20	2.4	2.4
21	2.4	0
22	2.5	0.7
23	0	0
24	2.5	0.7
25	4.8	4.8
26	2.5	0
27	0	-
28	4.1	2.8
29	4.3	1.7
30	4.4	1.6
31	1.1	1.8
32	2.4	2.4
33	2.4	2.4
34	0.8	0.8
35	2.4	2.4
36	0	0.2
37	1.6	1.6
38	0	0
39	0	0
40	4.8	4.8
41	0	0
42	4.8	0
43	4.7	4.7
44	3.3	3.3
45	0	0
46	4.7	4.7
47	2.4	2.4
48	2.4	2.4
49	0.4	0.4
50	0.2	0.2
51	0	0
52	0	0
53	4.3	4.3
54	0	0
55	0	0
56	0	0
57	4.4	4.4
58	9.6	9.6
59	4.4	0
60	0.8	0.8
61	2.4	2.4
62	2.4	2.4
63	4.2	4.2
64	4.3	4.3
IC3001		
1	2.5	2.5
2	0	0
3	2.5	2.5
4	2.4	2.4
5	0	1.5
6	2.4	2.6
7	2.4	2.4
8	2.4	2.4
9	4.8	4.8
10	4.8	4.8
11	0	0
12	0	0.2
13	0	2.0
14	4.4	4.6
15	4.9	4.6
16	0.6	0.6
17	4.0	4.0
18	0	0
19	3.1	3.1
20	4.5	4.5
21	3.8	3.8
22	0.2	1.9
23	0	0
24	4.8	4.8
25	0	0
26	4.9	4.9
27	4.9	4.9
28	4.9	4.9
29	4.9	4.9
30	0	0
31	4.9	4.9
32	4.9	4.9
33	0	0
34	4.9	4.9
35	0	0
36	0	0
37	0	0
38	0	4.9
39	4.0	4.0
40	0	0
41	4.8	4.8
42	4.8	4.8
43	0	0

MODE PIN NO.	REC	PLAY
44	0	0
45	4.9	4.9
46	0	0
47	2.8	2.8
48	0	0
49	4.1	4.1
50	4.6	4.6
51	1.3	1.3
52	1.3	1.3
53	4.2	4.2
54	5.0	5.0
55	5.0	5.0
56	4.9	4.9
57	0	0
58	4.9	4.9
59	0	0
60	4.9	4.9
61	4.9	4.9
62	0	0
63	0	0
64	-	-
65	-	-
66	-	-
67	-	-
68	0	0
69	-	-
70	3.3	3.3
71	4.9	4.9
72	4.9	4.9
73	4.9	4.9
74	0	0
75	4.4	4.4
76	4.4	4.4
77	4.9	0
78	0	0
79	0	0
80	0	0
81	4.9	4.9
82	4.9	4.9
83	2.4	2.4
84	0	0
85	0	0
86	4.9	4.9
87	4.9	0
88	4.9	4.9
89	0	0
90	0	0
91	0	0
92	4.9	4.9
93	0	0
94	0	0
95	4.9	4.9
96	0	0
97	4.9	0
98	0.8	0.8
99	0	2.2
100	2.4	2.4
101	2.4	2.4
102	1.4	1.4
103	4.9	4.9
104	4.9	0
105	4.9	0
106	0	0
107	0	0
108	1.2	1.2
109	4.9	4.9
110	0	0
111	0	0
112	2.4	2.4
IC3002		
1	4.9	4.9
2	4.9	4.9
3	0	0
4	0	0
IC3003		
1	0	0
2	0	0
3	0	0
4	0	0
5	4.5	4.5
6	4.5	4.5
7	0	0
8	4.9	4.9
IC7002		
1	4.9	4.9
2	4.9	4.9
3	0	0

MODE PIN NO.	REC	PLAY
CN1 [Except HR-S7955MS]		
1	0	0
2	0	0
3	0	0
4	2.3	2.3
5	2.3	2.3
6	2.3	2.3
7	2.6	2.3
8	2.6	2.3
9	2.6	2.3
CN1 [HR-S7955MS]		
1	0	0
2	0	0
3	0	0
4	2.3	2.3
5	2.3	2.3
6	2.3	2.3
7	2.6	2.3
8	2.6	2.3
9	2.6	2.3
10	0	0
11	0	0
CN501		
1	2.4	2.4
2	0	0
3	2.3	2.3
4	4.9	4.9
5	2.1	2.1
6	0.3	4.5
7	3.3	3.3
8	0	0
9	2.8	2.8
10	0	0
11	4.6	4.6
12	4.1	4.1
13	0	0
14	2.5	2.5
15	2.5	2.5
16	0	0
17	0	0
CN901		
1	4.6	4.6
2	4.1	4.1
3	0.3	0.3
4	0	0
5	2.5	2.3
6	0	0
7	3.5	2.4
8	0	0
9	2.8	2.8
10	4.9	4.9
CN902		
1	2.8	2.8
2	0	0
3	0	0
4	2.4	2.1
5	1.3	2.3
6	4.9	4.9
7	0	0
8	0	0
9	2.3	2.3
10	0	0
11	0	0
12	2.4	2.1
CN903		
1	4.7	4.7
2	0	0
3	0	0
4	0	0
5	0.8	0.8
6	10.1	10.1
7	10.1	10.1
8	4.5	4.5
9	4.5	4.5
10	0	0
CN904		
1	0	0
2	4.9	4.9
3	0	0
4	0.2	0.2
5	0	0.2
6	0	0
7	0	0
8	0	0
9	0	0
10	0	0
11	0	0
CN905		
1	2.4	2.4
2	0	0

MODE PIN NO.	REC	PLAY
3	2.8	2.8
4	0	0
5	3.3	3.3
6	0	0
7	2.1	2.1
8	0	0
9	2.3	2.3
CN2001		
1	0	0
2	0	0
3	0	0
4	0	0
5	2.3	2.3
6	2.2	2.2
CN2002		
1	0	0
2	0	0
CN3001		
1	2.6	2.7
2	13.5	13.5
3	6.0	6.0
4	0	0
5	0	8.0
6	0	0
7	0	0
8	13.3	13.3
9	3.0	3.1
10	3.0	3.0
11	1.5	1.5
12	3.0	3.1
CN6701		
1	0	0
2	4.6	4.6
3	4.5	4.5
4	4.8	4.8
5	0.3	0.3
6	0.3	0.3
7	5.0	5.0
8	0	0
9	0	0
10	0.1	0
CN7001		
1	-	-
2	-	-
3	5.6	5.6
4	0	0
5	5.8	0
6	5.8	5.8

<2D DIGITAL>
[HR-S6950EU,HR-S6955MS, HR-S7955MS]

MODE PIN NO.	REC	PLAY
IC1201	-	-
CN1201		
1	2.4	2.4
2	0	0
3	2.3	2.3
4	4.9	4.9
5	2.1	2.1
6	0.3	4.5
7	3.3	3.3
8	0	0
9	2.8	2.8
10	0	0
11	4.6	4.6
12	4.1	4.1

<3D/TBC (2M)>
[HR-S7950EU,HR-S7955EK]

MODE PIN NO.	REC	PLAY
IC1401	-	-
CN1401		
1	2.4	2.4
2	0	0
3	2.3	2.3
4	4.9	4.9
5	2.1	2.1
6	0.3	4.5
7	3.3	3.3
8	0	0
9	2.8	2.8
10	0	0
11	4.6	4.6
12	4.1	4.1
13	0	0

MODE PIN NO.	REC	PLAY
14	0.8	0.8
15	2.5	2.5
16	0	0
17	2.5	2.5

<TERMINAL>

MODE PIN NO.	REC	PLAY
IC501	-	-
IC502		
1	2.0	2.0
2	0.1	4.9
3	3.3	3.3
4	3.4	3.4
5	4.9	4.9
6	2.2	2.2
7	2.0	2.0
8	4.9	0
9	1.4	0
10	2.9	2.9
11	2.9	2.9
12	2.9	2.9
13	0	0
14	2.8	2.8
15	2.8	2.8
16	1.9	1.9
17	2.0	2.0
18	1.9	1.9
IC901	-	-
CN511		
1	4.9	4.9
2	4.9	4.9
3	2.8	2.8
4	0	0
5	1.8	1.8
6	0	0
7	2.8	2.8
8	0	0
9	2.1	2.1
10	12.0	12.0
11	12.0	12.0
CN911		
1	4.6	4.6
2	4.1	4.1
3	0.3	0.3
4	0	0
5	2.5	2.3
6	0	0
7	3.5	2.4
8	0	0
9	2.8	2.8
10	4.9	4.9
CN912		
1	2.8	2.8
2	0	0
3	0	0
4	2.4	2.1
5	1.3	2.3
6	4.9	4.9
7	0	0
8	0	0
9	2.3	2.3
10	0	0
11	0	0
12	2.4	2.1
CN913		
1	4.7	4.7
2	0	0
3	0	0
4	0	0
5	0.8	0.8
6	10.1	10.1
7	10.1	10.1
8	4.5	4.5
9	4.5	4.5
10	0	0
CN914		
1	0	0
2	4.9	4.9
3	0	0
4	0.2	0.2
5	0	0.2
6	0	0
7	0	0
8	0	0
9	0	0
10	0	0
11	0	0

MODE PIN NO.	REC	PLAY
CN915		
1	2.4	2.4
2	0	0
3	2.8	2.8
4	0	0
5	3.3	3.3
6	0	0
7	2.1	2.1
8	0	0
9	2.3	2.3
CN916		
1	0	0
2	0	0
3	0	0
4	0	0

<DEMOD>

MODE PIN NO.	REC	PLAY
IC6701		
1	4.3	4.3
2	1.5	1.5
3	1.5	0
4	0	0
5	2.0	2.0
6	1.9	1.9
7	0.2	0.2
8	0	0
9	0	0
10	3.6	3.6
11	3.6	3.6
12	4.5	4.5
13	4.5	4.5
14	2.2	2.2
15	2.1	2.2
16	0	0
17	0.3	0.3
18	0.3	0.3
19	4.5	4.5
20	0	0
21	0.3	0.3
22	4.7	4.7
23	0	0
24	0	0
25	0	0
26	0	0
27	0	0
28	0	0
29	0	0
30	2.4	2.4
31	2.4	2.4
32	0	0
33	4.7	4.7
34	3.8	3.8
35	0	0
36	2.4	2.4
37	0	0
38	0	0
39	0	0
40	0	0
41	0	0
42	2.5	2.5
43	2.4	2.4
44	0	0
CN6701		
1	0	0
2	4.6	4.6
3	4.5	4.5
4	4.8	4.8
5	0.3	0.3
6	0.3	0.3
7	5.0	5.0
8	0	0
9	0	0
10	0.1	0

<MINI FRONT>[HR-S7955MS]

MODE PIN NO.	REC	PLAY
CN7002		
1	5.8	5.8
2	5.8	0
3	0	0
4	5.6	5.6
5	-	-
6	-	-

MODE PIN NO.	REC	PLAY
CN7005		
1	5.6	5.6
2	0	0
3	5.8	0
4	5.8	5.8

<S-JACK>

MODE PIN NO.	REC	PLAY
CN7108		
1	0	0
2	0	0
3	0	0
4	0	0

<ADV.JOG>

MODE PIN NO.	REC	PLAY
CN7003		
1	5.8	5.8
2	5.8	0
3	0	0
4	5.6	5.6

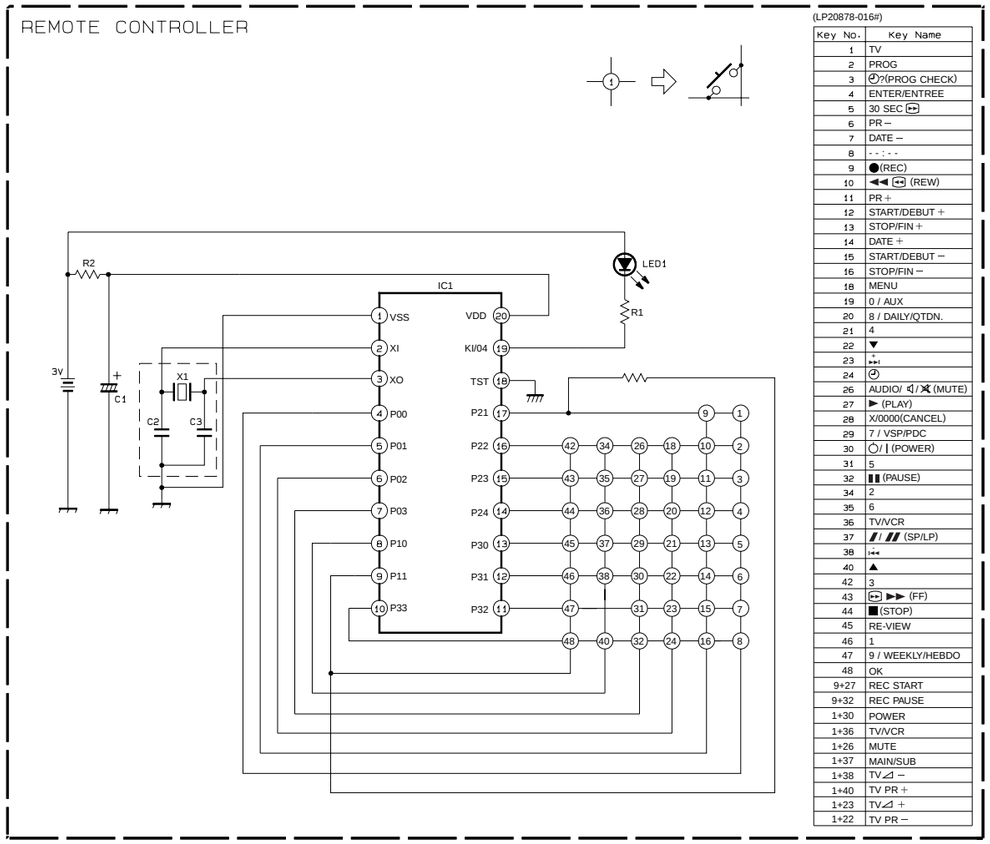
<S-P CONVERTER>

MODE PIN NO.	REC	PLAY
IC1601		
1	2.0	2.0
2	4.4	4.4
3	0	0.9
4	4.8	4.1
5	0	0
6	2.1	4.9
7	4.9	4.9
8	2.2	2.2
IC1602		
1	4.9	4.9
2	4.4	4.4
3	0.4	0.4
4	0.4	0.4
5	0.4	0.4
6	4.4	4.4
7	0	0
8	0.5	0.5
9	4.4	4.4
10	0	4.7
11	0	4.4
12	0	4.7
13	0.4	0.4
14	4.9	4.9
IC1603		
1	0	0
2	4.6	4.6
3	4.9	4.9
4	0	0
5	0.4	0.4
6	0.3	0.3
7	4.5	4.5
8	0	0
9	1.5	1.5
10	3.3	3.3
11	4.9	4.9
12	0	0.9
13	4.9	4.9
14	2.3	2.3
15	0	0
16	4.9	4.9
IC1604		
1	4.9	4.9
2	3.3	3.3
3	0.9	0.9
4	4.9	4.9
5	0.1	0.1
6	4.7	4.7
7	0	0
8	2.4	2.4
9	2.4	2.4
10	4.9	4.9
11	0	4.4
12	2.4	2.4
13	4.9	4.9
14	4.9	4.9

MODE PIN NO.	REC	PLAY
IC1605		
1	8	8.1
2	1.1	1.1
3	8.1	8.1
4	0	0
5	0	0
6	0	0
7	3.2	3.2
8	4.2	4.1
9	2.8	2.8
10	2.9	2.8
11	0	0
12	0	0
13	0	0
14	0	0
15	0.5	0.5
16	0	0
IC1606		
1	4.8	4.8
2	0	0
3	0	0
4	0.1	0.4
5	0.5	0.5
6	0	0
7	0.1	0.4
8	0	0
9	4.8	4.8
10	0	0
11	3.0	3.0
12	3.0	3.0
13	0.5	0
14	1.5	1.4
15	0.6	0
16	1.5	1.4
IC1607		
1	2.5	2.5
2	0	0
3	2.5	2.5
4	2.4	2.4
5	2.1	2.1
6	2.0	2.0
7	2.3	2.2
8	4.8	4.8
9	2.3	2.2
10	0	0
11	2.3	2.2
12	2.0	2.0
13	2.5	2.5
14	0	1.7
15	0	0.8
16	0.6	0.6
17	0	0
18	0	0
19	0	0
20	0	0.1
21	2.5	2.5
22	0	1.9
23	1.2	1.2
24	0	2.1
CN1601		
1	12.0	12.0
2	12.0	12.0
3	2.1	2.1
4	0	0
5	2.8	2.8
6	0	0
7	1.8	1.8
8	0	0
9	2.8	2.8
10	4.9	4.9
11	4.9	4.9

4.24 REMOTE CONTROLLER SCHEMATIC DIAGRAM

NOTES:
1. All parts shown in this schematic are critical for safety.
2. This schematic is only for reference.
   Avoid replacing individual parts.
   Replace the entire unit only.

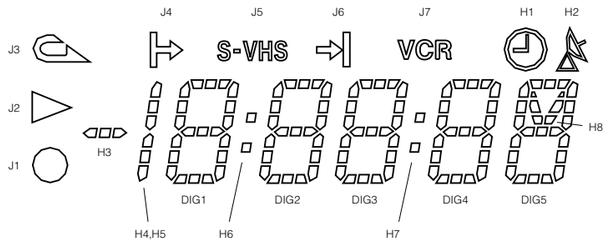


(LP20878-016#)

Key No.	Key Name
1	TV
2	PROG
3	?(PROG CHECK)
4	ENTER/ENTREE
5	30 SEC
6	PR –
7	DATE –
8	- - : - -
9	●(REC)
10	◄◄ (REW)
11	PR +
12	START/DEBUT +
13	STOP/FIN +
14	DATE +
15	START/DEBUT –
16	STOP/FIN –
18	MENU
19	0 / AUX
20	8 / DAILY/QTDN.
21	4
22	▼
23	
24	
26	AUDIO/ / (MUTE)
27	► (PLAY)
28	X/0000(CANCEL)
29	7 / VSP/PDC
30	/ (POWER)
31	5
32	▮▮ (PAUSE)
34	2
35	6
36	TV/VCR
37	/ (SP/LP)
38	
40	▲
42	3
43	►► (FF)
44	■(STOP)
45	RE-VIEW
46	1
47	9 / WEEKLY/HEBDO
48	OK
9+27	REC START
9+32	REC PAUSE
1+30	POWER
1+36	TV/VCR
1+26	MUTE
1+37	MAIN/SUB
1+38	TV –
1+40	TV PR +
1+23	TV +
1+22	TV PR –

4.25 FDP GRID ASSIGNMENT AND ANODE CONNECTION

GRID ASSIGNMENT



ANODE CONNECTION

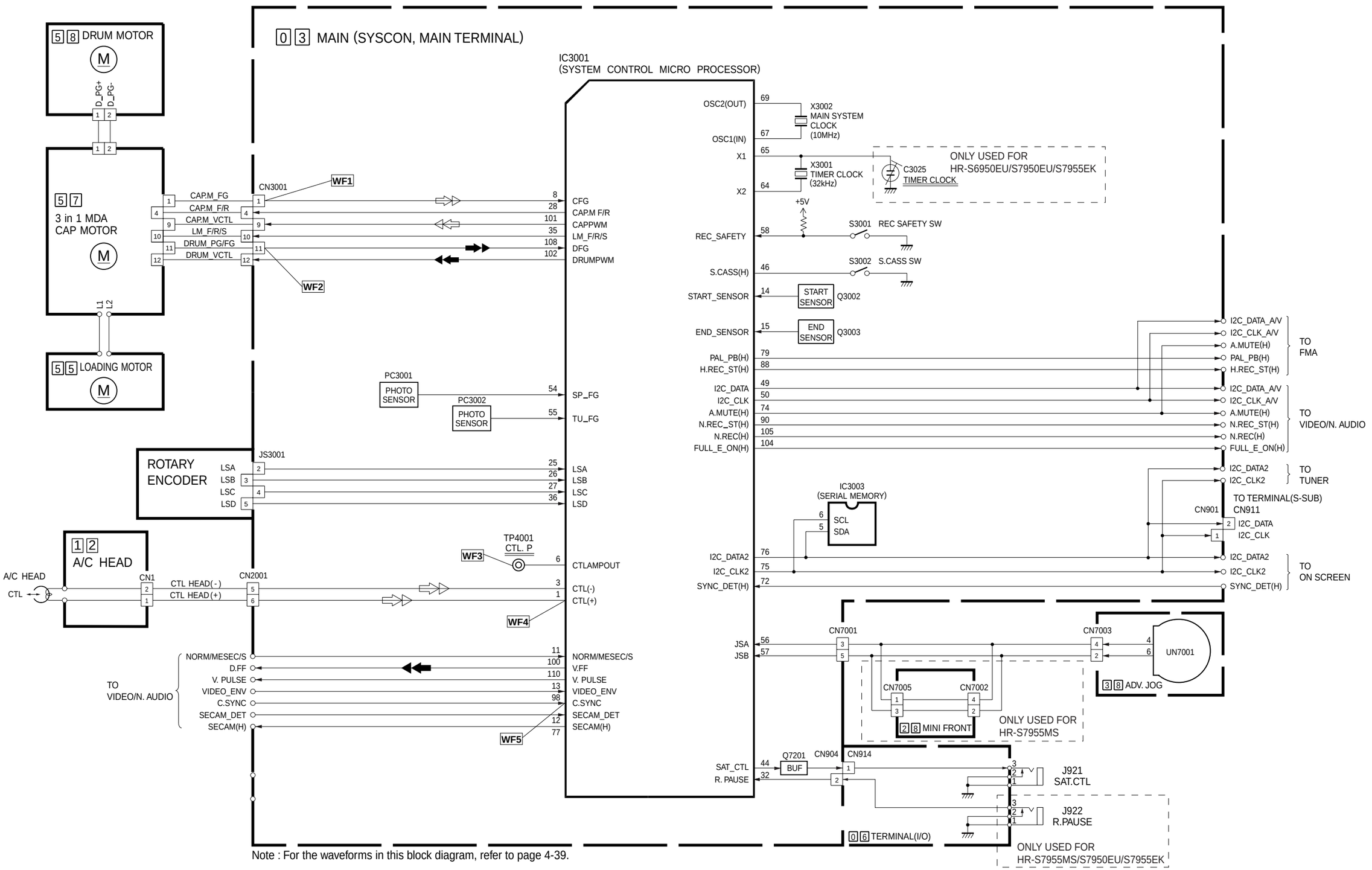
No.	CONNECTION
1	CATHODE G, J7, H8
2	CATHODE F, J6, H7
3	CATHODE E, J5, H6
4	CATHODE D, J4, H4, H5
5	CATHODE C, J3, H3
6	CATHODE B, J2, H2
7	CATHODE A, J1, H1
8	COMMON ANODE H1-H8
9	COMMON ANODE J1-J7
10	COMMON ANODE (DIGIT 5)
11	COMMON ANODE (DIGIT 4)
12	COMMON ANODE (DIGIT 3)
13	COMMON ANODE (DIGIT 2)
14	COMMON ANODE (DIGIT 1)

4.26 CPU PIN FUNCTION

<SYSCON IC3001>

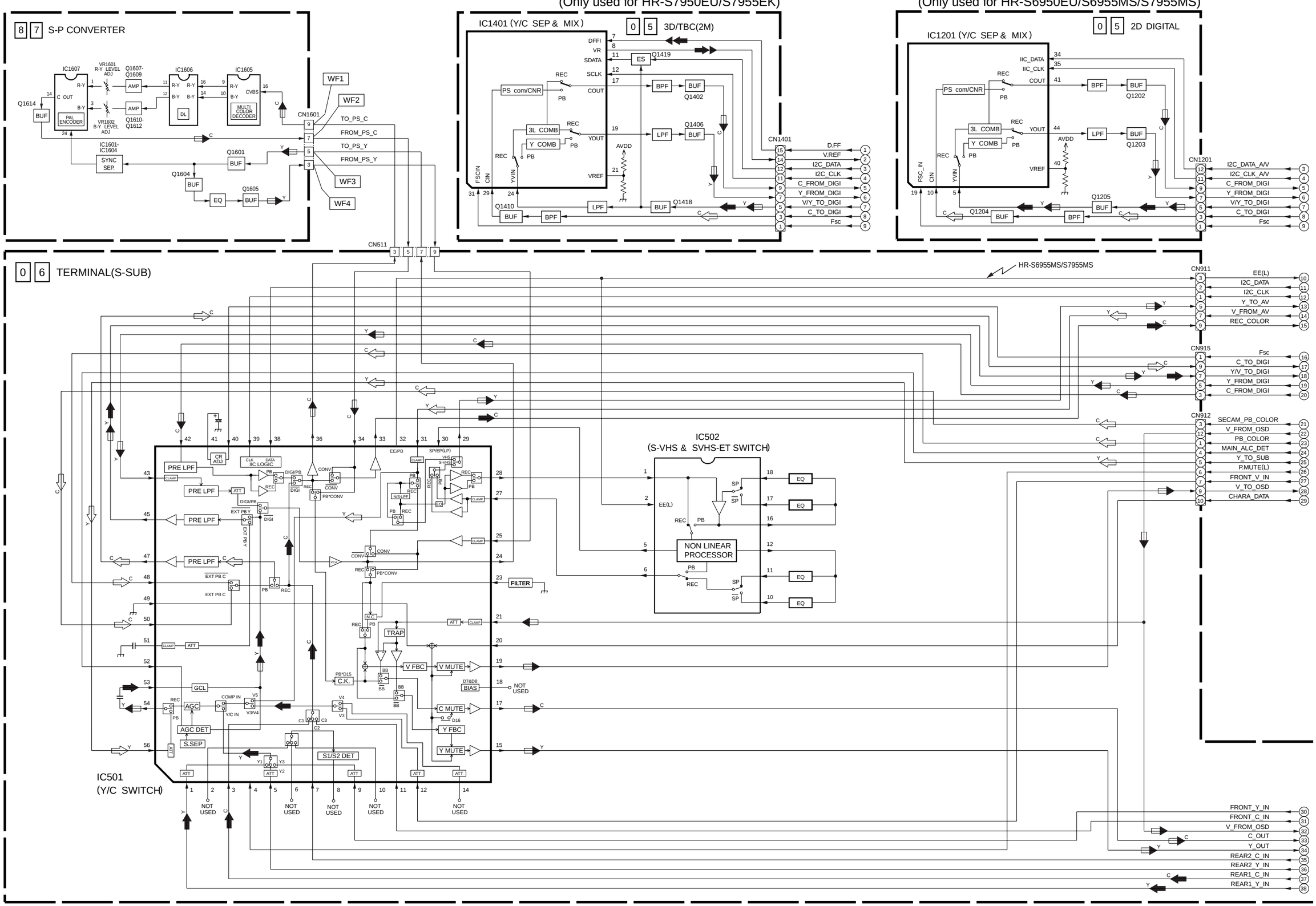
PIN NO.	LABEL	IN/OUT	FUNCTION
1	CTL(+)	IN/OUT	CTL(+) SIGNAL
2	SVSS	-	GND
3	CTL(-)	IN/OUT	CTL(-) SIGNAL
4	CTLBIAS	-	CTL BIAS VOLTAGE
5	CTLFB	IN	CTL PULSE FEEDBACK
6	CTLAMPOUT	OUT	CTL PULSE OUTPUT
7	CTLSMTIN	IN	CTL PULSE INPUT
8	CFG	IN	CAPSTAN FG PULSE INPUT
9	SVCC	-	SYSTEM POWER
10	AVCC	-	SYSTEM POWER FOR ANALOG CIRCUIT
11	NORM/MESEC/S	IN	(NORM MODE: L/MESECAM MODE: M/SVHS MODE:H)
12	SECAM_DET	IN	SECAM COLOR DETECT (SECAM:H)
13	VIDEO_ENV	IN	AUTO TRACKING DETECT/INPUT THE AVERAGE OF PLAYBACK VIDEO SIGNAL
14	START_SENSOR	IN	START SENSOR
15	END_SENSOR	IN	END SENSOR
16	KEY1	IN	OPERATION CONTROL SIGNAL
17	PROTECT	IN	DETECTION SIGNAL FOR SW POWER SUPPLY
18	SCR_ID/	IN	SCRAMBLE CONTROL INPUT (SCRAMBLE:H)
19	KEY2	IN	OPERATION CONTROL SIGNAL
20	AFC	IN	TUNING CHECK
21	RF AGC	IN	CHANGES IN ATS+IC OUTPUT AS CAUSED BY CHANGES IN RECEIVER SENSITIVITY WHEN THE SAME CHANNEL IS RECEIVED MORE THAN ONCE ARE INPUT.
22	A.ENV/ND(L)	IN	AUDIO PB FM ENV.INPUT/NON HiFi MODE:L
23	AVSS	-	GND FOR ANALOG CIRCUIT
24	CTL_GAIN	OUT	CONTROL AMP OUT FREQUENCY RESPONSE SWITCHING
25	LSA	IN	MECHANISM MODE DETECT(A)
26	LSB	IN	MECHANISM MODE DETECT(B)
27	LSC	IN	MECHANISM MODE DETECT(C)
28	CAP.M F/R	OUT	CAPSTAN MOTOR FORWARD/REVERSE CONTROL
29	RC	IN	REMOTE CONTROL DATA INPUT
30	DIG1	OUT	LED DRIVE
31	P50_IN	IN	CONTROL SIGNAL FOR TV LINK
32	R.PAUSE	IN	REMOTE PAUSE CONTROL
33	P50_OUT	OUT	CONTROL SIGNAL FOR TV LINK
34	DIG2	OUT	LED DRIVE
35	LM_F/R/S	OUT	LOADING MOTOR DRIVE
36	LSD	OUT	MECHANISM MODE DETECT (D)
37	DIG3	OUT	LED DRIVE
38	SB_GAIN(PWM)	OUT	VOLTAGE CONTROL SIGNAL FOR VIDEO FREQUENCY RESPONSE
39	DIG4	OUT	LED DRIVE
40	POWER_DET	IN	DETECTION SIGNAL FOR POWER DOWN OF AC POWER SUPPLY
41	P.CTL(H)	OUT	CONTROL SIGNAL FOR SWITCHING POWER SUPPLY
42	DIG5	OUT	LED DRIVE
43	VSS	-	GND
44	SAT_CTL	OUT	CONTROL SIGNAL FOR SATELLITE RECEIVER
45	VCC	-	SYSTEM POWER
46	S.CASS(H)	IN	DETECTION SIGNAL FOR SVHS CASSETTE (SVHS:H)
47	OSD_CS	OUT	CHIP SELECT FOR THE ON-SCREEN IC
48	MESECAM(H)/AGC_CTL	OUT	MESECAM: H/AGC CONTROL INPUT
49	I2C_DATA	IN/OUT	SERIAL DATA TRANSFER OUTPUT FOR THE VIDEO/AUDIO IC
50	I2C_CLK	OUT	SERIAL DATA TRANSFER CLOCK FOR THE VIDEO/AUDIO IC
51	DIG6	OUT	LED DRIVE
52	S.DATA_FRSYS	OUT	SERIAL DATA TRANSFER OUTPUT FROM THE FDP DRIVER TO THE ON-SCREEN IC
53	S.CLK	OUT	SERIAL DATA TRANSMISSION CLOCK FROM THE FDP DRIVER TO THE ON-SCREEN IC
54	SP_FG	IN	DETECTION SIGNAL FOR SUPPLY REEL ROTATION/TAPE REMAIN
55	TU_FG	IN	DETECTION SIGNAL FOR TAKE-UP REEL ROTATION/TAPE REMAIN
56	JSA	IN	INPUT FOR THE JOG SHUTTLE
57	JSB	IN	INPUT FOR THE JOG SHUTTLE
58	REC_SAFETY	IN	REC SAFETY SWITCH DETECT (SW ON:L)
59	SW1	OUT	TUNER SYSTEM MODE:H
60	SW2	OUT	TUNER SYSTEM MODE:L
61	DIG7	OUT	LED DRIVE
62	FWE	OUT	FLASH WRITE ENABLE
63	NMI(L)	-	CONNECT TO GND
64	X2	-	TIMER CLOCK (32.768KHz)
65	X1	-	TIMER CLOCK (32.768KHz)
66	RES	-	RESET TERMINAL (RESET ON:L)
67	OSC1(IN)	-	MAIN SYSTEM CLOCK(10MHz)
68	VSS	-	GND
69	OSC2(OUT)	-	MAIN SYSTEM CLOCK(10MHz)
70	VCC/VCL	-	SYSTEM POWER
71	MODE	IN	FWE MODE
72	SYNC DET(H)	IN	DETECTION OF VIDEO SYNC SIGNAL(DETECTED:H)
73	TU_V_MUTE(H)	OUT	TUNER VIDEO CONTROL (MUTE:H)
74	A.MUTE(H)	OUT	AUDIO MUTE CONTROL (MUTE:H)
75	I2C_CLK2	OUT	SERIAL DATA TRANSFER CLOCK FOR MEMORY IC
76	I2C_DATA2	IN/OUT	SERIAL DATA TRANSFER OUTPUT FOR MEMORY IC
77	SECAM(H)	OUT	SECAM MODE:H
78	P.ON_PULSE	OUT	P.ON_PULSE(H)
79	PAL PB(H)	OUT	PAL FM(PB ON:H)
80	V.P.CTL	OUT	V.PULSE CONTROL, V COMPENSATION DURING SPECIAL PLAYBACK
81	VHS(H)	OUT	VHS MODE(H)
82	VCC	-	SYSTEM POWER
83	SLOW_P	OUT	MEMORY TIMING CONTROL IN THE SLOW MODE
84	VSS	-	GND
85	SP_SHORT(H)/FLY.ON(H)	OUT	MODE SELECT/FLYING ERASE ON:H
86	LP_SHORT(H)/FLY.REC(H)	OUT	MODE SELECT/FLY REC START:H
87	SEP(H)	OUT	SEP PB:H
88	H.REC_ST(H)	OUT	HIFI AUDIO SOUND RECORDING START
89	TRICK(H)	OUT	SPECIAL PLAYBACK:H
90	N.REC_ST(H)	OUT	NORMAL AUDIO SOUND RECORDING START
91	Da	OUT	LED DRIVE
92	Db	OUT	LED DRIVE
93	Dc	OUT	LED DRIVE
94	Dd	OUT	LED DRIVE
95	De	OUT	LED DRIVE
96	Df	OUT	LED DRIVE
97	Dg	OUT	LED DRIVE
98	C.SYNC	IN	COMPOSITE SYNC
99	A.FF	OUT	AUDIO FF OUTPUT
100	V.FF	OUT	ROTATION DETECTION SIGNAL FOR DRUM MOTOR/TIMING CONTROL SIGNAL FOR REC
101	CAPPWM	OUT	CAPSTAN MOTOR CONTROL
102	DRUMPWM	OUT	DRUM MOTOR CONTROL
103	P.MUTE(L)	OUT	PICTURE MUTE CONTROL(MUTE:L)
104	FULL_E_ON(H)	OUT	FULL ERASE ON:H
105	N.REC(H)	OUT	NORMAL AUDIO REC MODE CONTROL SIGNAL (REC:H)
106	ET_REC(H)	OUT	ET REC MODE:H
107	HI_S_FF_REW	OUT	HIGH SPEED FF/REW CONTROL
108	DFG	IN	DRUM FG PULSE INPUT
109	VCC	-	SYSTEM POWER
110	V.PULSE	OUT	V.PULSE ADDITION TIMING CONTROL
111	VSS	-	GND
112	CTLREF	-	CTL REFERENCE VOLTAGE

4.27 SYSTEM CONTROL BLOCK DIAGRAM

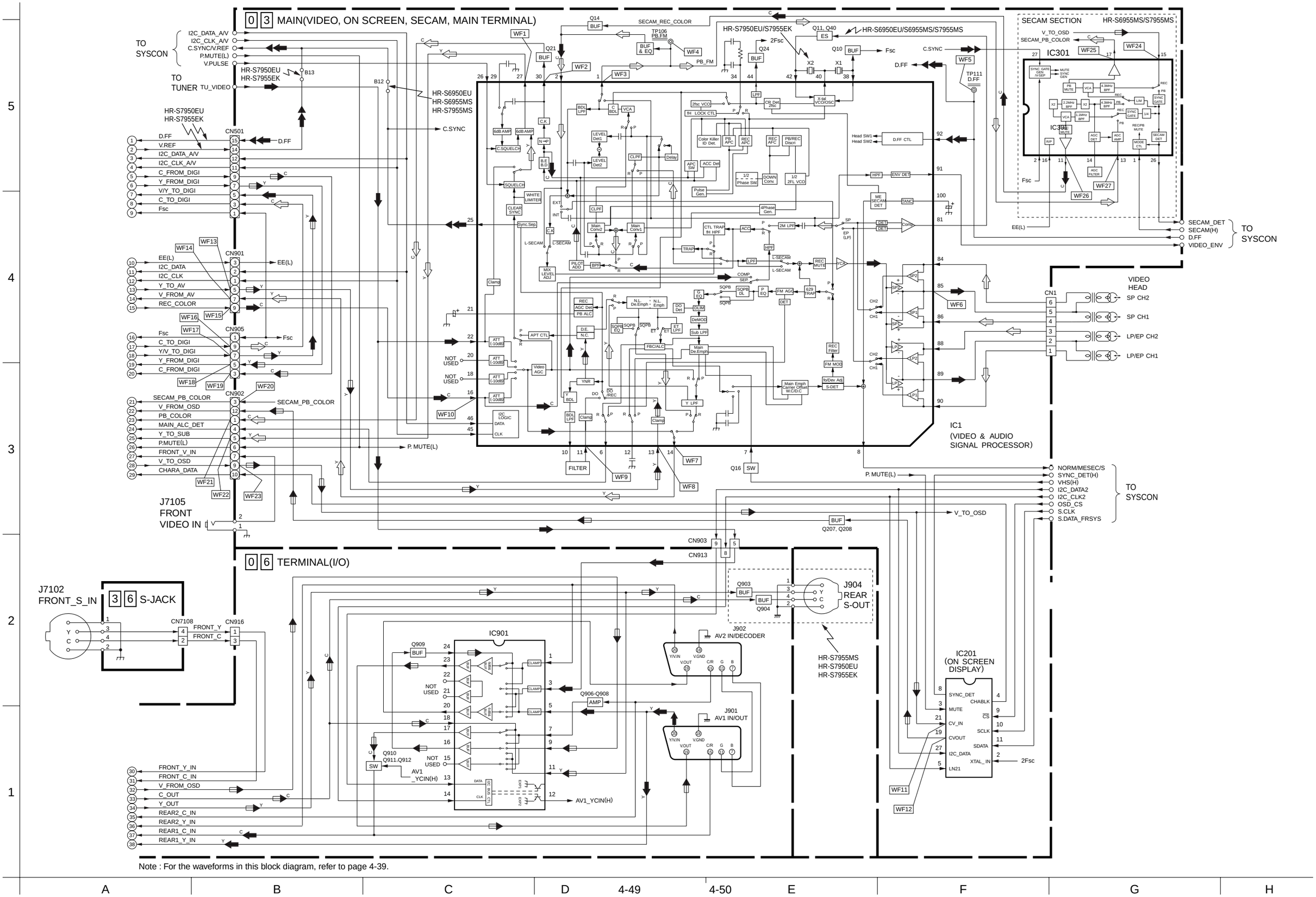


Note : For the waveforms in this block diagram, refer to page 4-39.

4.28 VIDEO BLOCK DIAGRAM

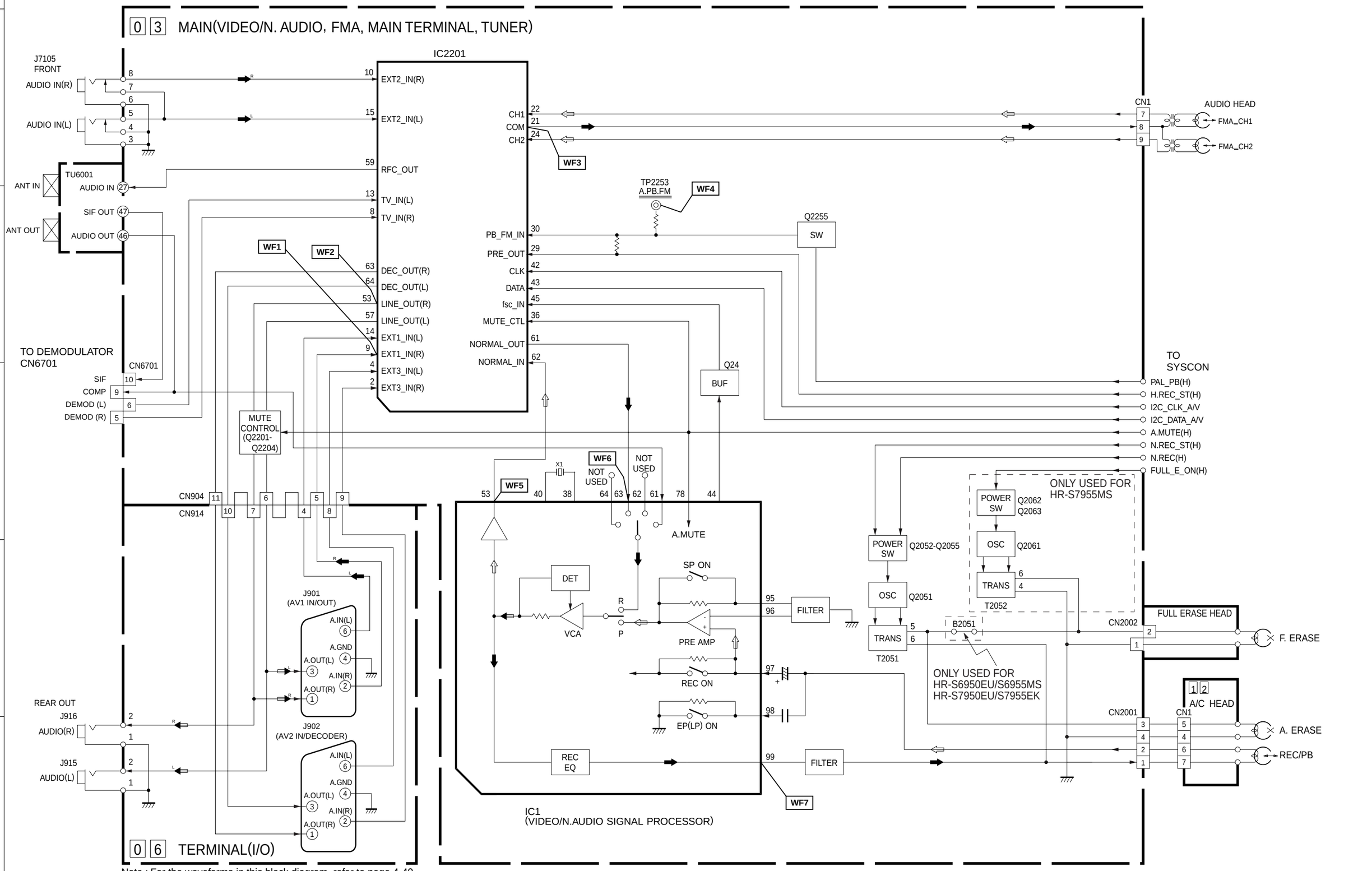


Note : For the waveforms in this block diagram, refer to page 4-39.



Note : For the waveforms in this block diagram, refer to page 4-39.

4.29 AUDIO BLOCK DIAGRAM



Note : For the waveforms in this block diagram, refer to page 4-40.

E. & O. E. No. 82923 (VP)-V15S1/S2/S15

JVC

VICTOR COMPANY OF JAPAN, LIMITED
VIDEO DIVISION

S40894

Printed in Japan

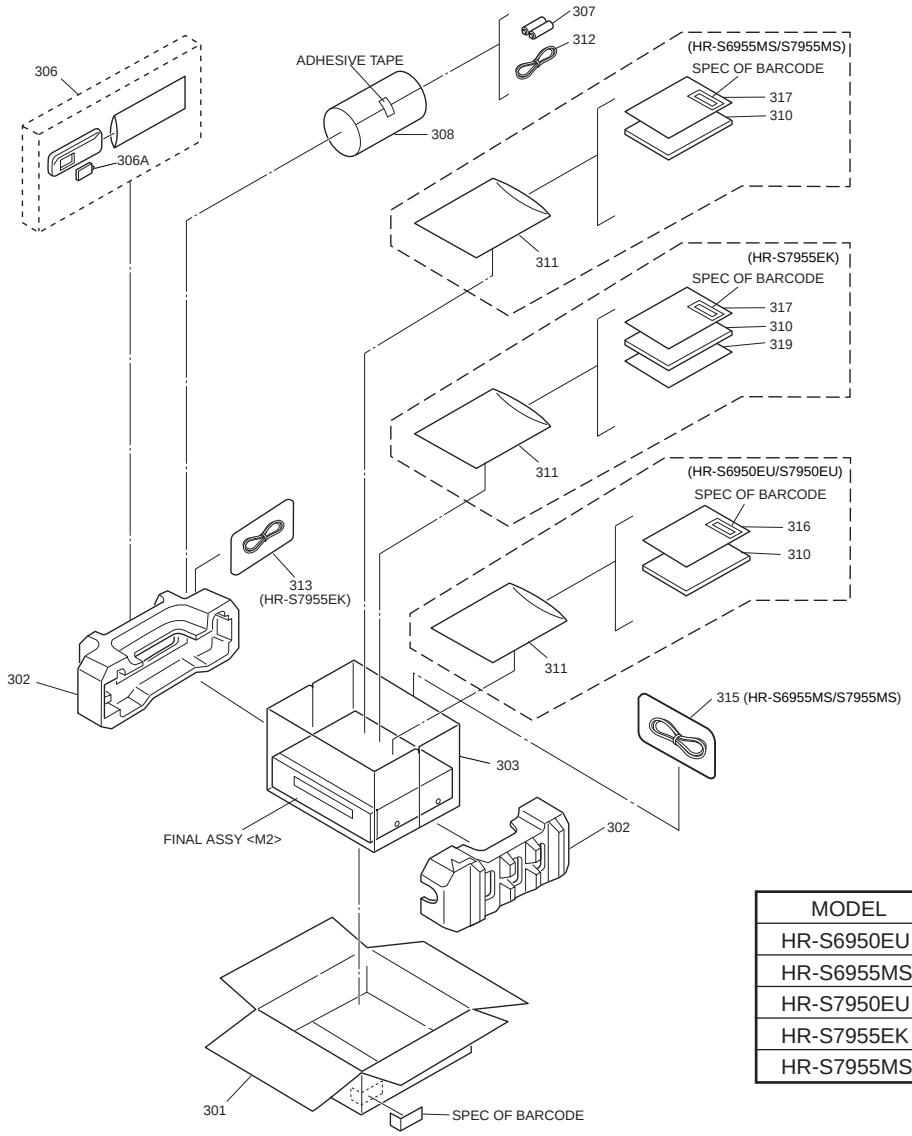
SECTION 5
PARTS LIST

SAFETY PRECAUTION

Parts identified by the ⚠ symbol are critical for safety. Replace only with specified part numbers.

5.1 PACKING AND ACCESSORY ASSEMBLY <M1>

The instruction manual to be provided with this product will differ according to the destination.



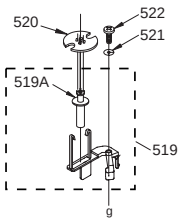
MODEL	MARK
HR-S6950EU	A
HR-S6955MS	B
HR-S7950EU	C
HR-S7955EK	D
HR-S7955MS	E

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
**********				
			PACKING AND ACCESSORY ASSEMBLY <M1>	
		301	LP30855-004A	PACKING CASE
		302	LP30909-001C	CUSHION ASSY
		303	PQM30021-93	POLY BAG
		306	LP20878-016A	REMOTE CONTROLLER
		306A	LP40610-003A	COVER(BATTERY)
		307	–	BATTERY,X2(“R6”TYPE)
		308	QPC02202230P	POLY BAG
	⚠	310	LPT0650-001B	INST.BOOK(EN),A
	⚠		LPT0650-002B	INST.BOOK(GE),A
	⚠		LPT0650-003A	INST.BOOK(FR),A
	⚠		LPT0650-004A	INST.BOOK(DU),A
	⚠		LPT0650-005A	INST.BOOK(SP),A
	⚠		LPT0650-006A	INST.BOOK(IT),A
	⚠		LPT0650-007A	INST.BOOK(DA),A
	⚠		LPT0650-008A	INST.BOOK(FI),A
	⚠		LPT0650-009A	INST.BOOK(SW),A
	⚠		LPT0650-010A	INST.BOOK(NO),A
	⚠		LPT0650-011A	INST.BOOK(PT),A
	⚠		LPT0650-012A	INST.BOOK(GR),A
	⚠		LPT0650-013A	INST.BOOK(CZ),A
	⚠		LPT0650-014A	INST.BOOK(PO),A
	⚠		LPT0650-015A	INST.BOOK(HU),A
	⚠		LPT0650-016A	INST.BOOK(RU),A
	⚠		LPT0651-001A	INST.BOOK(EN),C
	⚠		LPT0651-002A	INST.BOOK(GE),C
	⚠		LPT0651-003A	INST.BOOK(FR),C
	⚠		LPT0651-004A	INST.BOOK(DU),C
	⚠		LPT0651-005A	INST.BOOK(SP),C
	⚠		LPT0651-006A	INST.BOOK(IT),C
	⚠		LPT0651-007A	INST.BOOK(DA),C
	⚠		LPT0651-008A	INST.BOOK(FI),C
	⚠		LPT0651-009A	INST.BOOK(SW),C
	⚠		LPT0651-010A	INST.BOOK(NO),C
	⚠		LPT0651-011A	INST.BOOK(PT),C
	⚠		LPT0651-012A	INST.BOOK(GR),C
	⚠		LPT0651-013A	INST.BOOK(CZ),C
	⚠		LPT0651-014A	INST.BOOK(PO),C
	⚠		LPT0651-015A	INST.BOOK(HU),C
	⚠		LPT0655-001A	INST.BOOK(EN),D
	⚠		LPT0658-001A	INST.BOOK(FR),B
	⚠		LPT0659-001B	INST.BOOK(FR),E
		311	QPC02503530P	POLY BAG
		312	PEAC0300-02	RF CABLE
		313	QAL0095-005	LED CABLE ASSY,D
		315	QAM0238-003	PERI CABLE,B,E
		316	BT-54013-2	WARRANTY CARD,A,C
		317	BT-54008-2	GUARANTY CARD,B,D,E
		319	LYT0194-001B	Q.CARD(JUK),D

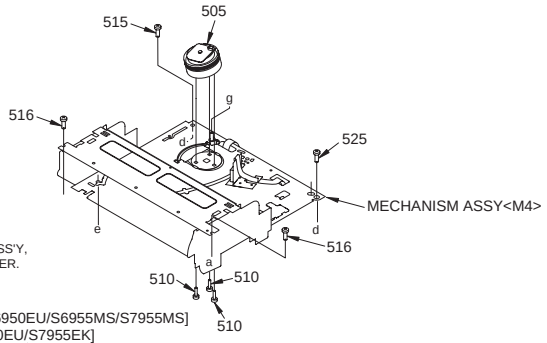
5.2 FINAL ASSEMBLY <M2>

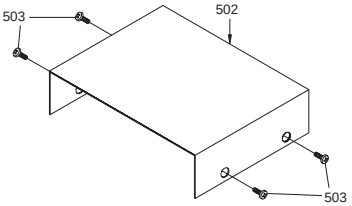
BEWARE OF BOGUS PARTS

Parts that do not meet specifications may cause trouble in regard to safety and performance. We recommend that genuine JVC parts be used.



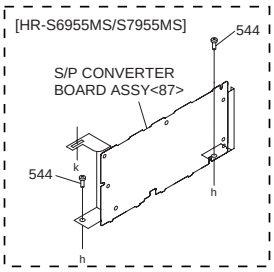
NOTE) AFTER ATTACHED ROLLER ARM ASS'Y, TIGHTEN SCREW WITH SLIT WASHER.

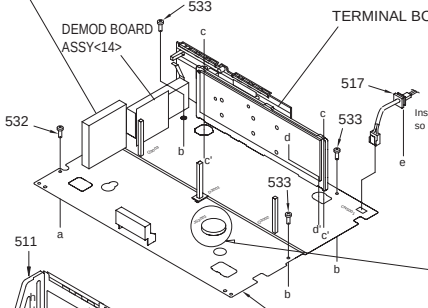




2D DIGITAL BOARD ASSY<05>[HR-S6950EU/S6955MS/S7955MS]
3D D/2M BOARD ASSY<05>[HR-S7950EU/S7955EK]

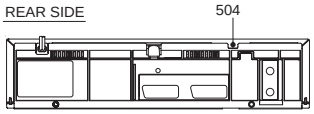
[HR-S6955MS/S7955MS]

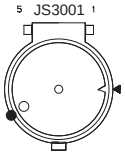




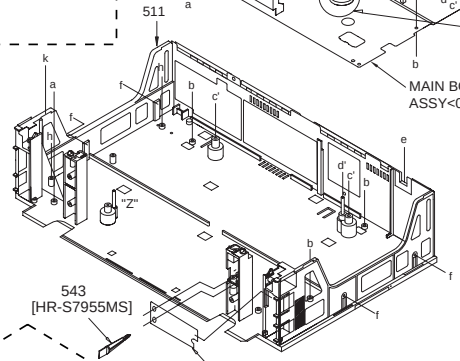
Insert the bushing of POWER CORD so as not to twist the cord.

REAR SIDE





<Phase alignment>
Accord the position of V gap on R. Encoder and PWB silk "◀".
Accord the position of Boss on R. Encoder and PWB silk "●".

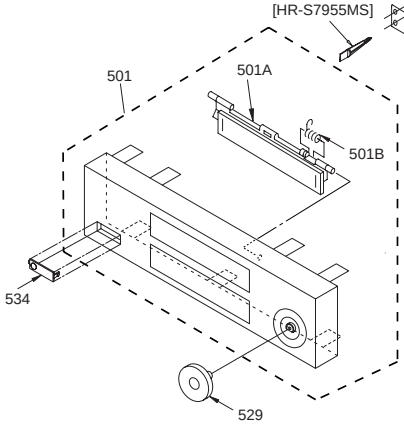


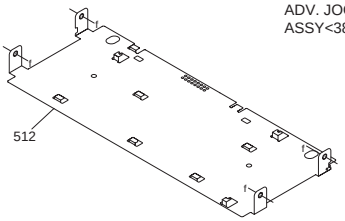
For the prevention of the DRUM FPC damage.
When you attach the Mechanism assembly on Bottom chassis.
Attach the Mechanism assembly after the positioning boss "z" of the Bottom chassis is matched to the positioning hole of the Mehcanism assembly.

543
[HR-S7955MS]

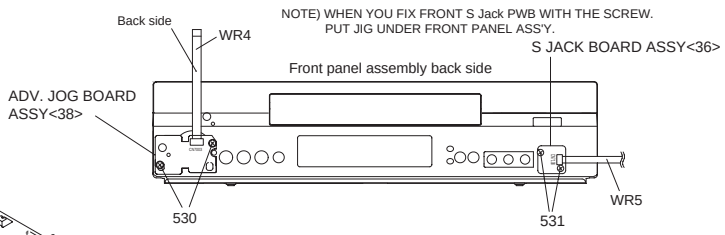
MINI FORNT BOARD ASSY<28>[HR-S7955MS]

NOTE) INSERT FFC WIRE TO THE CONNECTOR BEFORE ATTACHING JOG/SW PWB TO F.PANEL.
NOTE)INSERT FFC WIRE TO THE CONNECTOR BEFORE ATTACHING JOG/SW PWB TO F.PANEL.

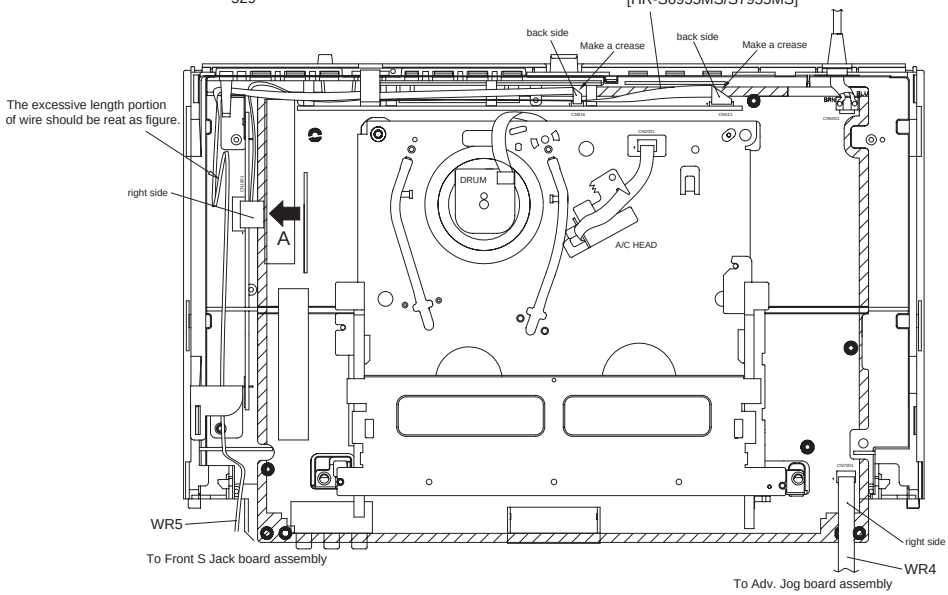




NOTE) WHEN YOU FIX FRONT S Jack PWB WITH THE SCREW. PUT JIG UNDER FRONT PANEL ASS'Y.

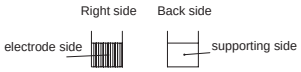


WR9
[HR-S6955MS/S7955MS]

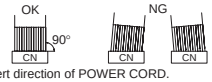


NOTE

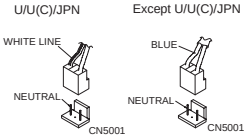
1. Insert direction of FFC WIRE as follows.



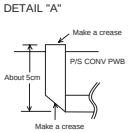
2. FFC WIRE and DRUM FPC WIRE should be insert as follows.



3. Insert direction of POWER CORD.

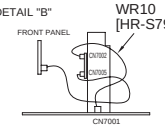


DETAIL "A"



DETAIL "B"

WR10
[HR-S7955MS]



Push the FFC wire from the FRONT PANEL to rear side.

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION

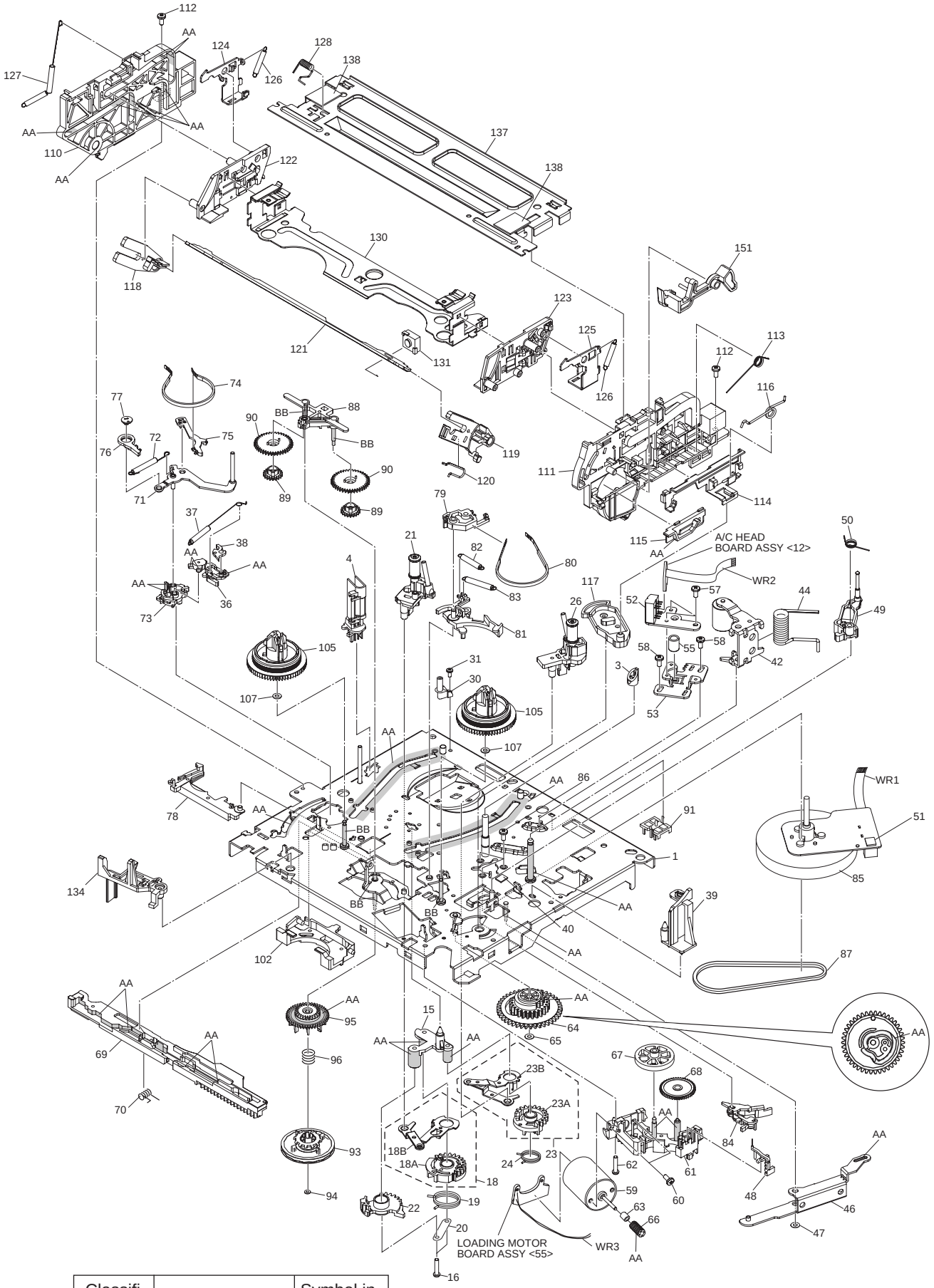
****

FINAL ASSEMBLY <M2>

	⚠	501	LP10427-014F	FRONT PANEL ASSY,A
	⚠		LP10427-016F	FRONT PANEL ASSY,B
	⚠		LP10427-017F	FRONT PANEL ASSY,C
	⚠		LP10427-018F	FRONT PANEL ASSY,D
	⚠		LP10427-019F	FRONT PANEL ASSY,E
		501A	LP20961-007C	CASSETTE DOOR,A,B,E
			LP20961-010C	CASSETTE DOOR,C,D
		501B	PQ46448	TORSION SPRING
	⚠	502	LP10013-051B	TOP COVER
		503	QYTDSF3010R	SCREW,X4,TOP COVER(SIDE)
		504	QYTDSF3010M	SCREW,TOP COVER(REAR)
		505	PDV2544A	DRUM ASSY,A,B,C,D
			PDV2547A	DRUM ASSY,E
		510	QYSPSPD3008Z	SCREW,X3,DRUM
	⚠	511	LP10108-016E	BOTTOM CHASSIS
	⚠	512	LP10014-002C	BOTTOM COVER
		515	QYTDSF4012Z	SCREW,MECHA
		516	QYSPSFG3010Z	SCREW,X2,MECHA
	⚠	517	QMP4A10-170	POWER CORD,A,B,C,E
	⚠		QMP51K0-170-K	POWER CORD,D
		519	LP40370-001F	ROLLER ARM ASSY
		519A	PDM4311A-1	ROLLER ASSY
		520	PQ45160	INERTIA PLATE
		521	PQM30017-51	SLIT WASHER
		522	QYSLSF2060D	SCREW
		525	LP40700-001A	SPECIAL SCREW,MECHA
		529	LP31019-005C	KNOB ASSY,B,C,D,E
			LP31019-005D	KNOB ASSY,A
		530	QYTPSFG2608Z	SCREW,X2,ADJ.JOG
		531	QYTDSF2608Z	SCREW,X2,S JACK
		532	QYTDSF3010Z	SCREW,MAIN
		533	DPSF3010Z	SCREW,X3,MAIN
		534	LP30871-003B	CAP(JACK)
		543	LP40628-001B	PC SUPPORT,E
		544	QYTDSF3008Z	SCREW,X2,S/P CONV.,B,E
		WR4	QUQ212-0414CG	FFC WIRE,ADV.JOG CN7003
		WR5	QUQ212-0456CG	FFC WIRE,S JACK CN7103
		WR9	QUQ112-1140CG	FFC WIRE,S/P CONV. CN1601,B,E
		WR10	QUQ112-0614CG	FFC WIRE,MINI FRONT CN7002,E

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION

5.3 MECHANISM ASSEMBLY <M4>



Classification	Part No.	Symbol in drawing
Grease	KYODO-SH-JB	AA
Oil	COSMO-HV56	BB

NOTE: The section marked in **AA** and **BB** indicate lubrication and greasing areas.

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION

****

MECHANISM ASSEMBLY <M4>

		1	LP21039-001R	MAIN DECK ASSY
		3	LP40097-002D	GUIDE POLE CAP
		4	QAH0082-001	FULL ERASE HEAD
		15	LP30958-001B	LOAD.GEAR BASE
		16	QYTPST2620Z	SCREW,X2
		18	LP40798-001A	LOAD.GEAR(SUPPLY)ASSY
		18A	LP21040-001A	LOAD.GEAR(SUPPLY)
		18B	LP40799-001A	LOAD.ARM(SUPPLY)ASSY
		19	LP40837-001A	TORSION SPRING(SUPPLY)
		20	LP40903-001A	FIXING PLATE
		21	LP40806-001D	POLE BASE ASSY(SUPPLY)
		22	LP30959-002A	LOAD GEAR
		23	LP40802-001B	LOAD.GEAR(TAKE UP)ASSY
		23A	LP21041-001B	LOAD.GEAR(TAKE UP)
		23B	LP40803-001A	LOAD.ARM(TAKE UP)ASSY
		24	LP40838-001A	TORSION SPRING(TAKE UP)
		26	LP40808-001E	POLE BASE ASSY(TAKE UP)
		30	LP31020-004A	ARM BASE
		31	QYTDST2606Z	SCREW
		36	LP21055-001E	TU LEVER
		37	LP40943-001A	TENSION SPRING
		38	LP40859-001D	T-UP HEAD
		39	LP30961-001C	LID GUIDE
		40	LP30002-0B7A	SPACER
		42	LP40810-001A	PINCH ROLLER ARM ASSY
		44	LP40840-001D	TORSION SPRING
		46	LP30963-001B	PRESS LEVER
		47	PQM30017-24	SLIT WASHER
		48	LP40930-002E	S-SWITCH
		49	LP40813-001D	GUIDE ARM ASSY
		50	LP40841-001A	TORSION SPRING
		51	LP30002-090A	SPACER
		52	QAH0081-001	AC HEAD
		53	LP30965-001A	HEAD BASE
		55	LP40842-001A	COMPRESSION SPRING
		57	QYTSST2010Z	SCREW,X3
		58	QYTDST2606Z	SCREW,X2
		59	QAR0023-001	LOADING MOTOR
		60	QYTPSP3003Z	SCREW,X2
		61	LP21056-002G	MOTOR BRACKET
		62	QYTPST2620Z	SCREW
		63	LP40814-001B	WORM BEARING
		64	LP21044-001D	CONTROL CAM
		65	PQM30017-24	SLIT WASHER
		66	LP40815-001A	WORM GEAR
		67	LP40816-001B	HELICAL GEAR
		68	LP40817-001A	CONNECT GEAR
		69	LP10400-001H	CONTROL PLATE
		70	LP40843-001A	TORSION SPRING
		71	LP40818-001B	TENSION ARM ASSY
		72	LP40844-001D	TENSION SPRING
		73	LP21045-001D	TENSION ARM BASE
		74	LP40821-001A	TENSION BAND ASSY
		75	LP30967-001B	BAND HOLDER-1
		76	LP30968-001C	BAND HOLDER-2
		77	LP40822-002B	ADJUST PIN
		78	LP31000-005E	TENSION ARM LEVER
		79	LP21046-001C	MAIN BRAKE(TAKE UP)
		80	LP40824-001A	BAND BRAKE ASSY
		81	LP30969-002A	BRAKE LEVER
		82	LP30003-033B	TENSION SPRING
		83	LP30003-035B	TENSION SPRING
		84	LP40825-001B	CAPSTNAN BRAKE ASSY
	⚠	85	QAR0204-002	CAPSTAN MOTOR
		86	QYTDSF2606M	SCREW,X3
		87	LP30005-010A	BELT,CAPSTAN MOTOR
		88	LP30970-001A	IDLER ARM
		89	LP40828-004A	IDLER GEAR 1,X2
		90	LP40829-001B	IDLER GEAR 2,X2
		91	LP31014-001A	WIRE HOLDER
		93	LP40934-001B	CLUTCH UNIT
		94	PQM30017-47	SLIT WASHER
		95	LP30973-001A	DIRECT GEAR
		96	LP40939-001A	COMP. SPRING
		102	LP30974-001B	CHANGE LEVER
		105	LP21049-001A	REEL DISK,X2
		107	LP30017-004A	SPACER,X2
		110	LP10401-001F	SIDE FRAME(L)
		111	LP10402-001G	SIDE FRAME(R)
		112	QYTDST2606Z	SCREW,X2
		113	LP40917-001D	TORSION SPRING
		114	LP30976-001E	SIDE PLATE
		115	LP30977-002D	LIMIT PLATE
		116	LP40846-001C	LIMIT SPRING
		117	LP31100-001B	DRIVE LEVER
		118	LP30978-001B	DRIVE ARM(L)
		119	LP30979-001H	DRIVE ARM(R)
		120	LP40847-001B	TORSION SPRING
		121	LP30980-001B	CONNECT PLATE
		122	LP10403-001C	SIDE HOLDER(L)
		123	LP10404-001E	SIDE HOLDER(R)
		124	LP30983-001A	LOCK LEVER(L)
		125	LP30984-001A	LOCK LEVER(R)
		126	LP40924-001D	TENSION SPRING,X2
		127	LP40856-001B	EARTH SPRING(1)
		128	LP40857-001B	EARTH SPRING(2)
		130	LP30981-001F	CASETTE HOLDER ASSY
		131	LP31135-001A	C.H STOPPER
		134	LP21051-002C	REC.SAFETY LEVER
		137	LP21052-001H	TOP FRAME
		138	LP30002-0A7A	SPACER,X2
		151	LP30985-001G	DOOR OPENER
		WR1	WJT0059-001D	E-CARD WIRE,DRUM
		WR2	WJT0067-001B	E-CARD WIRE,A/C HEAD CN2001
		WR3	WJS0022-001A	E-FL/RB WIRE,LOADING MOTOR

5.4 ELECTRICAL PARTS LIST

MODEL	MARK	MODEL	MARK
HR-S6950EU	A	HR-S7955EK	D
HR-S6955MS	B	HR-S7955MS	E
HR-S7950EU	C		

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION

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MAIN BOARD ASSEMBLY <03>

PW1 MAIN BOARD ASS'Y<03> includes the parts shown in the following.
PW1 2D DIGITAL BOARD ASS'Y<05>
PW1 3D D/2M BOARD ASS'Y<05>
PW1 TERMINAL BOARD ASS'Y<06>
PW1 DEMOD BOARD ASS'Y<14>

PW1	LPA10170-02C	MAIN BOARD ASSY,C,D
	LPA10170-03D	MAIN BOARD ASSY,E
	LPA10170-04D	MAIN BOARD ASSY,B
	LPA10170-01D	MAIN BOARD ASSY,A
IC1	JCP8051-MSA	IC
IC201	LC74775-9750	IC
IC301	LA7358	IC,B,E
IC2201	AN3651FBP	IC
IC3001	HD6432194SBD30F	IC,A,C,D
	HD6432194SAD32F	IC,B,E
	or HD64F2194CFD30	IC,A,C,D
	or HD64F2194CFD32	IC,B,E
IC3002	IC-PST3427U-X	IC
IC3003	LPN0741-005A-01	IC(EEPROM),A
	LPN0763-003A-81	IC(EEPROM),B
	LPN0758-002A-03	IC(EEPROM),C
	LPN0760-002A-02	IC(EEPROM),D
	LPN0761-003A-82	IC(EEPROM),E
IC7002	GP1U291Q	IR DETECT UNIT
	or PNA4652M00YC	IR DETECT UNIT
Q1	2SC4081/QRS/-X	TRANSISTOR,A,B,C,D
	or 2PC4081/R/-X	TRANSISTOR,A,B,C,D
Q2	2SC4081/QRS/-X	TRANSISTOR,A,B,C,D
	or 2PC4081/R/-X	TRANSISTOR,A,B,C,D
Q3	2SC4081/QRS/-X	TRANSISTOR,A,B,C,D
	or 2PC4081/R/-X	TRANSISTOR,A,B,C,D
Q4	2SC4081/QRS/-X	TRANSISTOR,A,B,C,D
	or 2PC4081/R/-X	TRANSISTOR,A,B,C,D
Q7	2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q8	2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q9	2SA1576A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
Q10	2SA1576A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
Q11	DTC144WU	DIGI TRANSISTOR,A,B,E
	or PDTC144WU	DIGI TRANSISTOR,A,B,E
	or RN1309	DIGI TRANSISTOR,A,B,E
	or UN521E	DIGI TRANSISTOR,A,B,E
Q14	2SA1576A/QR/-X	TRANSISTOR,B,E
	or 2PA1576/R/-X	TRANSISTOR,B,E
Q16	DTC144WU	DIGI TRANSISTOR
	or PDTC144WU	DIGI TRANSISTOR
	or RN1309	DIGI TRANSISTOR
	or UN521E	DIGI TRANSISTOR
Q18	DTC144WU	DIGI TRANSISTOR,B,E
	or PDTC144WU	DIGI TRANSISTOR,B,E
	or RN1309	DIGI TRANSISTOR,B,E
	or UN521E	DIGI TRANSISTOR,B,E
Q19	DTC144WU	DIGI TRANSISTOR,B,E
	or PDTC144WU	DIGI TRANSISTOR,B,E
	or RN1309	DIGI TRANSISTOR,B,E
	or UN521E	DIGI TRANSISTOR,B,E
Q21	2SA1576A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
Q24	2SA1576A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
Q25	DTC144WU	DIGI TRANSISTOR,C,D
	or PDTC144WU	DIGI TRANSISTOR,C,D
	or RN1309	DIGI TRANSISTOR,C,D
	or UN521E	DIGI TRANSISTOR,C,D
Q38	2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q40	DTC144WU	DIGI TRANSISTOR,A,B,E
	or PDTC144WU	DIGI TRANSISTOR,A,B,E
	or RN1309	DIGI TRANSISTOR,A,B,E
	or UN521E	DIGI TRANSISTOR,A,B,E
Q41	DTC144WU	DIGI TRANSISTOR
	or PDTC144WU	DIGI TRANSISTOR
	or RN1309	DIGI TRANSISTOR
	or UN521E	DIGI TRANSISTOR
Q50	DTC144WU	DIGI TRANSISTOR
	or PDTC144WU	DIGI TRANSISTOR
	or RN1309	DIGI TRANSISTOR
	or UN521E	DIGI TRANSISTOR
Q207	2SA1576A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
Q208	2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q301	2SB1218A/QR/-X	TRANSISTOR,B,E
	or 2PA1576/R/-X	TRANSISTOR,B,E
	or 2SA1576A/QR/-X	TRANSISTOR,B,E
Q302	UN511E	DIGI TRANSISTOR,B,E
	or DTA144WU	DIGI TRANSISTOR,B,E
	or PDTA144WU	DIGI TRANSISTOR,B,E
	or RN2309	TRANSISTOR,B,E
Q401	2SA1576A/QR/-X	TRANSISTOR,E
Q402	2SA1576A/QR/-X	TRANSISTOR,E
Q403	DTC144WU	DIGI TRANSISTOR,E
	or PDTC144WU	DIGI TRANSISTOR,E
	or RN1309	DIGI TRANSISTOR,E
	or UN521E	DIGI TRANSISTOR,E
Q404	DTC144WU	DIGI TRANSISTOR,E
	or PDTC144WU	DIGI TRANSISTOR,E
	or RN1309	DIGI TRANSISTOR,E
	or UN521E	DIGI TRANSISTOR,E
Q405	2SA1576A/QR/-X	TRANSISTOR,E
Q2001	2SC4081/QRS/-X	TRANSISTOR
	or 2SD1819A/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q2002	2SC4081/QRS/-X	TRANSISTOR
	or 2SD1819A/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q2003	DTA144WU	DIGI TRANSISTOR
	or PDTA144WU	DIGI TRANSISTOR
	or RN2309	TRANSISTOR
	or UN511E	DIGI TRANSISTOR
Q2004	DTC144WU	DIGI TRANSISTOR
	or PDTC144WU	DIGI TRANSISTOR
	or UN521E	DIGI TRANSISTOR
	or RN1309	DIGI TRANSISTOR
Q2051	2SC4081/QRS/-X	TRANSISTOR
	or 2SD1819A/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
		Q2052	2SA1576A/QR/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
		Q2053	DTC144WU	DIGI TRANSISTOR
			or PDTC144WU	DIGI TRANSISTOR
			or RN1309	DIGI TRANSISTOR
			or UN521E	DIGI TRANSISTOR
		Q2054	2SA1576A/QR/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
		Q2055	DTC144WU	DIGI TRANSISTOR
			or PDTC144WU	DIGI TRANSISTOR
			or RN1309	DIGI TRANSISTOR
			or UN521E	DIGI TRANSISTOR
		Q2061	2SC4081/QRS/-X	TRANSISTOR,E
			or 2SD1819A/QRS/-X	TRANSISTOR,E
			or 2PC4081/R/-X	TRANSISTOR,E
		Q2062	2SA1576A/QR/-X	TRANSISTOR,E
			or 2SB1218A/QR/-X	TRANSISTOR,E
			or 2PA1576/R/-X	TRANSISTOR,E
		Q2063	DTC144WU	DIGI TRANSISTOR,E
			or PDTC144WU	DIGI TRANSISTOR,E
			or RN1309	DIGI TRANSISTOR,E
			or UN521E	DIGI TRANSISTOR,E
		Q2201	DTA144WU	DIGI TRANSISTOR
			or PDTA144WU	DIGI TRANSISTOR
			or RN2309	TRANSISTOR
			or UN511E	DIGI TRANSISTOR
		Q2202	DTC144WU	DIGI TRANSISTOR
			or PDTC144WU	DIGI TRANSISTOR
			or RN1309	DIGI TRANSISTOR
			or UN521E	DIGI TRANSISTOR
		Q2203	2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q2204	2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q2251	DTC144WU	DIGI TRANSISTOR
			or PDTC144WU	DIGI TRANSISTOR
			or RN1309	DIGI TRANSISTOR
			or UN521E	DIGI TRANSISTOR
		Q2252	DTC144WU	DIGI TRANSISTOR
			or PDTC144WU	DIGI TRANSISTOR
			or RN1309	DIGI TRANSISTOR
			or UN521E	DIGI TRANSISTOR
		Q2253	DTC144WU	DIGI TRANSISTOR
			or PDTC144WU	DIGI TRANSISTOR
			or RN1309	DIGI TRANSISTOR
			or UN521E	DIGI TRANSISTOR
		Q2254	DTC114EU	DIGI TRANSISTOR
			or PDTC114EU	DIGI TRANSISTOR
			or RN1302	DIGI TRANSISTOR
			or UN5211	DIGI TRANSISTOR
		Q2255	DTC114EU	DIGI TRANSISTOR
			or PDTC114EU	DIGI TRANSISTOR
			or RN1302	DIGI TRANSISTOR
			or UN5211	DIGI TRANSISTOR
		Q3002	PTZ-NV16A	PHOTO TRANSISTO
		Q3003	PTZ-NV16A	PHOTO TRANSISTOR
		Q3004	2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SC4081/QRS/-X	TRANSISTOR
		Q3005	2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SC4081/QRS/-X	TRANSISTOR
		Q3007	UN521E	DIGI TRANSISTOR
			or DTC144WU	DIGI TRANSISTOR
			or PDTC144WU	DIGI TRANSISTOR
			or RN1309	DIGI TRANSISTOR
		Q4001	UN5211	DIGI TRANSISTOR
			or DTC114EU	DIGI TRANSISTOR
			or PDTC114EU	DIGI TRANSISTOR
			or RN1302	DIGI TRANSISTOR
		Q5101	2SK2632-CB14	POWER MOS FET
			or 2SK2129	POWER MOS FET
			or 2SK2129-LT	POWER MOS FET
			or 2SK2632	POWER MOS FET
		Q5102	2SD2144S/UV/-T	TRANSISTOR
		Q5301	2SC1740S/RS/-T	TRANSISTOR
			or 2SC3199/YG/-T	TRANSISTOR
		Q5303	2SC5739/QP/	TRANSISTOR
		Q5304	2SD2144S/UV/-T	TRANSISTOR
		Q5305	DTA114EU	DIGI TRANSISTOR
			or PDTA114EU	DIGI TRANSISTOR
			or RN2302	TRANSISTOR
			or UN5111	DIGI TRANSISTOR
		Q5306	DTC114EU	DIGI TRANSISTOR
			or PDTC114EU	DIGI TRANSISTOR
			or RN1302	DIGI TRANSISTOR
			or UN5211	DIGI TRANSISTOR
		Q5307	2SD2144S/UV/-T	TRANSISTOR
		Q6030	2SB1218A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
			or 2SA1576A/QR/-X	TRANSISTOR
		Q6031	DTC114EU	DIGI TRANSISTOR
			or PDTC114EU	DIGI TRANSISTOR
			or RN1302	DIGI TRANSISTOR
			or UN5211	DIGI TRANSISTOR
		Q6032	DTC114EU	DIGI TRANSISTOR
			or PDTC114EU	DIGI TRANSISTOR
			or RN1302	DIGI TRANSISTOR
			or UN5211	DIGI TRANSISTOR
		Q7001	2SB1218A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
			or 2SA1576A/QR/-X	TRANSISTOR
		Q7002	2SB1218A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
			or 2SA1576A/QR/-X	TRANSISTOR
		Q7003	2SB1218A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
			or 2SA1576A/QR/-X	TRANSISTOR
		Q7004	2SB1218A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
			or 2SA1576A/QR/-X	TRANSISTOR
		Q7005	2SB1218A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
			or 2SA1576A/QR/-X	TRANSISTOR
		Q7006	2SB1218A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
			or 2SA1576A/QR/-X	TRANSISTOR
		Q7007	2SB1218A/QR/-X	TRANSISTOR

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
			or 2PA1576/R/-X	TRANSISTOR	
			or 2SA1576A/QR/-X	TRANSISTOR	
		Q7008	DTC143TU	DIGI TRANSISTOR	
			or UN5216	TRANSISTOR	
		Q7009	DTC143TU	DIGI TRANSISTOR	
			or UN5216	TRANSISTOR	
		Q7010	DTC143TU	DIGI TRANSISTOR	
			or UN5216	TRANSISTOR	
		Q7011	DTC143TU	DIGI TRANSISTOR	
			or UN5216	TRANSISTOR	
		Q7012	DTC143TU	DIGI TRANSISTOR	
			or UN5216	TRANSISTOR	
		Q7013	DTC143TU	DIGI TRANSISTOR	
			or UN5216	TRANSISTOR	
		Q7014	DTC143TU	DIGI TRANSISTOR	
			or UN5216	TRANSISTOR	
		Q7201	2SC1317/RS/-T	TRANSISTOR	
		D1	QUY153-050Y	IM BUS WIRE	
		D201	QRE141J-152Y	RESISTOR	1.5kΩ,1/4W
		D202	QRE141J-101Y	RESISTOR	100Ω,1/4W
		D203	QRE141J-101Y	RESISTOR	100Ω,1/4W
		D2251	1SS133	DIODE	
		D3001	LNB2301L01VI	LE DIODE	
		D3002	1SS133	DIODE	
			or 1SS270A	DIODE	
		D3003	RD39ES/B3/-T2	ZENER DIODE	
			or MTZJ39C	ZENER DIODE	
		D3004	11ES2	DIODE	
			or 1A3G	DIODE	
		D3005	11ES2	DIODE	
			or 1A3G	DIODE	
		D3008	1SS355	DIODE	
		D4001	QUY153-050Y	IM BUS WIRE	
		D4002	QUY153-050Y	IM BUS WIRE	
		D5001	S1WB/A/60-4102	BRIDGE DIODE	
			or S1WB(A)60F4072X	BRIDGE DIODE	
			or S1WB/A/60-X	BRIDGE DIODE	
		D5101	AU01	DIODE	
			or ERA18-04-T2	FR DIODE	
			or 1SR153-400-T2	FR DIODE	
			or 10ELS4	FR DIODE	
		D5102	AU01	DIODE	
			or ERA18-04-T2	FR DIODE	
			or 1SR153-400-T2	FR DIODE	
			or 10ELS4	FR DIODE	
		D5103	1SS133	DIODE	
			or 1SS270A	DIODE	
		D5105	1SS133	DIODE	
			or 1SS270A	DIODE	
		D5203	AU01Z	FR DIODE	
			or 10ELS2	FR DIODE	
		D5204	AU01Z	FR DIODE	
			or 10ELS2	FR DIODE	
		D5207	AK04	SB DIODE	
			or SBO40	SB DIODE	
			or 1S4	SB DIODE	
			or 11EQS04	SB DIODE	
		D5209	AK04	SB DIODE	
			or SBO40	SB DIODE	
			or 1S4	SB DIODE	
			or 11EQS04	SB DIODE	

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		D5210	AU01Z	FR DIODE	
			or ERA18-02-T2	FR DIODE	
			or PG104RS	FR DIODE	
			or 1SR153-400-T2	FR DIODE	
			or 10ELS2	FR DIODE	
		D5301	MTZJ15C	ZENER DIODE	
			or RD15ES/B3/-T2	ZENER DIODE	
		D5302	MTZJ11C	ZENER DIODE	
			or RD11ES/B3/-T2	ZENER DIODE	
		D5303	MTZJ5.6A	ZENER DIODE	
			or RD5.6ES/B1/-T2	ZENER DIODE	
		D5305	MTZJ5.6C	ZENER DIODE	
			or RD5.6ES/B3/-T2	ZENER DIODE	
		D6002	HZ30-2L-T2	ZENER DIODE	
			or HZ30-2LTD	Z DIODE (M)	
		D7051	1SS133	DIODE	
			or 1SS270A	DIODE	
		R1	NRSA02J-622X	MG RESISTOR	6.2kΩ,1/10W
		R2	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
		R3	NRSA02J-182X	MG RESISTOR	1.8kΩ,1/10W
		R5	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R6	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
		R7	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
		R10	QRE141J-103Y	RESISTOR	10kΩ,1/4W
		R21	NRSA02J-102X	MG RESISTOR,A,B,C,D	1kΩ,1/10W
		R22	NRSA02J-102X	MG RESISTOR,A,B,C,D	1kΩ,1/10W
		R23	NRSA02J-182X	MG RESISTOR,B,E	1.8kΩ,1/10W
		R25	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R26	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R27	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		R28	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		R29	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
		R30	NRSA02J-103X	MG RESISTOR,B,E	10kΩ,1/10W
		R31	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
		R32	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R35	NDC21HJ-470X	CAPACITOR	47pF,50V
		R36	NRSA02J-182X	MG RESISTOR	1.8kΩ,1/10W
		R38	NRSA02J-392X	MG RESISTOR	3.9kΩ,1/10W
		R40	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R41	NRSA02J-104X	MG RESISTOR	100kΩ,1/10W
		R42	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
		R43	NRSA02J-102X	MG RESISTOR,A,B,E	1kΩ,1/10W
		R46	NRSA02J-221X	MG RESISTOR,A,B,E	220Ω,1/10W
			NRSA02J-471X	MG RESISTOR,C,D	470Ω,1/10W
		R48	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R51	NRSA02J-122X	MG RESISTOR	1.2kΩ,1/10W
		R52	NQR0360-003X	FERRATE BEADS,A,B,E	
			NRSA02J-101X	MG RESISTOR,C,D	100Ω,1/10W
		R65	NRSA02J-102X	MG RESISTOR,B,E	1kΩ,1/10W
		R68	NRSA02J-472X	MG RESISTOR,B,E	4.7kΩ,1/10W
		R76	NRSA02J-103X	MG RESISTOR,B,E	10kΩ,1/10W
		R77	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
		R84	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R88	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R90	NRSA02J-391X	MG RESISTOR	390Ω,1/10W
		R93	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R104	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R117	NRSA02J-104X	MG RESISTOR,C,D	100kΩ,1/10W
		R118	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R201	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R202	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		R208	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R209	NRSA02J-512X	MG RESISTOR	5.1kΩ,1/10W
		R210	NRSA02J-182X	MG RESISTOR	1.8kΩ,1/10W
		R211	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
		R212	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R213	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R216	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R224	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R225	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R226	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R301	NRSA02J-273X	MG RESISTOR,B,E	27kΩ,1/10W
		R302	NRSA02J-124X	MG RESISTOR,B,E	120kΩ,1/10W
		R303	NRSA02J-273X	MG RESISTOR,B,E	27kΩ,1/10W
		R304	NRSA02J-682X	MG RESISTOR,B,E	6.8kΩ,1/10W
		R305	NRSA02J-473X	MG RESISTOR,B,E	47kΩ,1/10W
		R306	NRSA02J-273X	MG RESISTOR,B,E	27kΩ,1/10W
		R307	NRSA02J-222X	MG RESISTOR,B,E	2.2kΩ,1/10W
		R308	NRSA02J-222X	MG RESISTOR,B,E	2.2kΩ,1/10W
		R309	NRSA02J-0R0X	MG RESISTOR,B,E	0Ω,1/10W
		R310	NRSA02J-223X	MG RESISTOR,B,E	22kΩ,1/10W
		R311	NRSA02J-472X	MG RESISTOR,B,E	4.7kΩ,1/10W
		R312	NRSA02J-272X	MG RESISTOR,B,E	2.7kΩ,1/10W
		R313	NRSA02J-223X	MG RESISTOR,B,E	22kΩ,1/10W
		R314	NRVA02D-243X	CMF RESISTOR,B,E	24kΩ,1/10W
		R315	NRSA02J-564X	MG RESISTOR,B,E	560kΩ,1/10W
		R316	NRSA02J-124X	MG RESISTOR,B,E	120kΩ,1/10W
		R318	NRSA02J-821X	MG RESISTOR,B,E	820Ω,1/10W
		R329	NRSA02J-0R0X	MG RESISTOR,B,E	0Ω,1/10W
		R401	NRSA02J-221X	MG RESISTOR,E	220Ω,1/10W
		R402	NRSA02J-681X	MG RESISTOR,E	680Ω,1/10W
		R403	NRSA02J-561X	MG RESISTOR,E	560Ω,1/10W
		R404	NRSA02J-473X	MG RESISTOR,E	47kΩ,1/10W
		R405	NRSA02J-683X	MG RESISTOR,E	68kΩ,1/10W
		R406	NRSA02J-393X	MG RESISTOR,E	39kΩ,1/10W
		R407	NRSA02J-472X	MG RESISTOR,E	4.7kΩ,1/10W
		R408	NRSA02J-473X	MG RESISTOR,E	47kΩ,1/10W
		R2003	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R2005	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
		R2007	NRSA02J-183X	MG RESISTOR	18kΩ,1/10W
		R2008	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R2010	NRSA02J-123X	MG RESISTOR	12kΩ,1/10W
		R2013	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R2014	NRSA02J-224X	MG RESISTOR	220kΩ,1/10W
		R2015	NRSA02J-181X	MG RESISTOR	180Ω,1/10W
		R2016	NRSA02J-393X	MG RESISTOR	39kΩ,1/10W
		R2017	NRSA02J-183X	MG RESISTOR	18kΩ,1/10W
		R2018	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R2019	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R2020	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R2041	QRE141J-0R0	RESISTOR	0Ω,1/4W
		R2053	NRSA02J-392X	MG RESISTOR	3.9kΩ,1/10W
		R2054	NRSA02J-123X	MG RESISTOR,A,B,C,D	12kΩ,1/10W
			NRSA02J-153X	MG RESISTOR,E	15kΩ,1/10W
		R2055	NRSA02J-3R3X	MG RESISTOR	3.3Ω,1/10W
		R2056	QRE141J-101Y	RESISTOR,E	100Ω,1/4W
			QRE141J-820Y	RESISTOR,A,B,C,D	82Ω,1/4W
		R2057	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R2058	NRSA02J-183X	MG RESISTOR	18kΩ,1/10W
		R2059	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R2060	NRSA02J-183X	MG RESISTOR	18kΩ,1/10W
		R2061	NRSA02J-273X	MG RESISTOR,E	27kΩ,1/10W

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		R2062	NRSA02J-3R3X	MG RESISTOR,E	3.3Ω,1/10W
		R2063	QRE141J-151Y	RESISTOR,E	150Ω,1/4W
		R2064	NRSA02J-473X	MG RESISTOR,E	47kΩ,1/10W
		R2065	NRSA02J-183X	MG RESISTOR,E	18kΩ,1/10W
		R2201	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R2202	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R2203	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R2204	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R2205	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R2206	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R2207	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R2208	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R2209	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
		R2210	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R2211	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
		R2212	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
		R2213	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R2214	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
		R2215	NRSA02J-181X	MG RESISTOR	180Ω,1/10W
		R2216	NRSA02J-122X	MG RESISTOR,A,C,D	1.2kΩ,1/10W
		R2217	NRSA02J-472X	MG RESISTOR,A,C,D	4.7kΩ,1/10W
		R2218	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
		R2219	NRSA02J-122X	MG RESISTOR	1.2kΩ,1/10W
		R2220	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R2222	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R2223	NRSA02J-511X	MG RESISTOR	510Ω,1/10W
		R2224	NRSA02J-511X	MG RESISTOR	510Ω,1/10W
		R2225	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R2226	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
		R2227	NRSA02J-393X	MG RESISTOR	39kΩ,1/10W
		R2228	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
		R2229	NRSA02J-393X	MG RESISTOR	39kΩ,1/10W
		R2230	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R2231	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R2232	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R2233	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R2234	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R2235	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
		R2236	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
		R2237	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
		R2238	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
		R2251	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R2252	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		R2253	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R2254	QRE141J-103Y	RESISTOR	10kΩ,1/4W
		R2255	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
		R2256	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R3011	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3012	NRSA02J-102X	MG RESISTOR,B,E	1kΩ,1/10W
		R3013	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3014	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3015	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3016	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3017	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3018	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R3019	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3020	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3021	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3022	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3025	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3026	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		R3027	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3029	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3030	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3031	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3032	NRSA02J-102X	MG RESISTOR,C,D,E	1kΩ,1/10W
		R3033	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3034	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3035	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3036	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3037	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3038	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
		R3039	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3040	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3041	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3042	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3044	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3046	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3047	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3048	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3049	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3050	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3051	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3052	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R3053	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R3054	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3055	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3056	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3057	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3058	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3059	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3060	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3061	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3062	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3063	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3066	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3069	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R3071	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3072	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3073	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3074	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3075	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R3076	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R3077	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3078	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3079	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3080	NRSA02J-101X	MG RESISTOR,C,D	100Ω,1/10W
		R3081	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3083	NRSA02J-0R0X	MG RESISTOR,C,D	0Ω,1/10W
		R3085	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3086	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3087	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3088	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3089	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3090	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3091	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3092	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3093	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3094	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3095	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3096	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3097	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3103	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3104	NRSA02J-0R0X	MG RESISTOR,E	0Ω,1/10W
		R3105	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3106	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3205	QRE141J-181Y	RESISTOR	180Ω,1/4W
		R3206	NRSA02J-123X	MG RESISTOR	12kΩ,1/10W
		R3207	NRSA02J-183X	MG RESISTOR	18kΩ,1/10W
		R3208	NRSA02J-121X	MG RESISTOR	120Ω,1/10W
		R3209	NRSA02J-183X	MG RESISTOR	18kΩ,1/10W
		R3210	NRSA02J-121X	MG RESISTOR	120Ω,1/10W
		R3211	NRSA02J-183X	MG RESISTOR	18kΩ,1/10W
		R3212	NRSA02J-474X	MG RESISTOR	470kΩ,1/10W
		R3213	NRSA02J-334X	MG RESISTOR	330kΩ,1/10W
		R3214	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3215	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3216	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3217	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3218	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3219	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3220	NRSA02J-104X	MG RESISTOR	100kΩ,1/10W
		R3222	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3223	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3224	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3225	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3229	NRSA02J-105X	MG RESISTOR	1MΩ,1/10W
		R3230	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3231	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3233	NRSA02J-103X	MG RESISTOR,C,D,E	10kΩ,1/10W
		R3234	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3235	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
		R3236	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
		R3237	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3238	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3241	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3242	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3252	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
		R3253	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R4003	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
		R4004	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
		R4005	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
		R4007	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R4008	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R4009	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R4010	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R4011	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
		R4012	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R4013	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R4015	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
		R4017	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R5101	QRE141J-224Y	RESISTOR	220kΩ,1/4W
		R5102	QRE141J-224Y	RESISTOR	220kΩ,1/4W
		R5103	QRE141J-683Y	RESISTOR	68kΩ,1/4W
		R5104	QRG02GJ-683	OMF RESISTOR	68kΩ,2W
		R5106	QRT01DJ-R39X	MF RESISTOR	0.39Ω,1W
		R5107	QRE121J-331Y	RESISTOR	330Ω,1/2W
		R5108	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
		R5109	QRE141J-561Y	RESISTOR	560Ω,1/4W
		R5110	NRSA02J-224X	MG RESISTOR	220kΩ,1/10W
		R5111	NRSA02J-391X	MG RESISTOR	390Ω,1/10W
		R5112	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		R5302	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		R5303	NRSA02J-122X	MG RESISTOR	1.2kΩ,1/10W
		R5304	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R5306	NRSA02J-181X	MG RESISTOR	180Ω,1/10W
		R5310	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R5312	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R5313	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R5319	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		R5332	QRL02DJ-391X	OMF RESISTOR	390Ω,2W
		R6020	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R6021	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R6030	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R6031	NRSA02J-271X	MG RESISTOR	270Ω,1/10W
		R6032	NRSA02J-183X	MG RESISTOR,B,E	18kΩ,1/10W
			NRSA02J-472X	MG RESISTOR,A,C,D	4.7kΩ,1/10W
		R6033	NRSA02J-182X	MG RESISTOR,A,C,D	1.8kΩ,1/10W
			NRSA02J-183X	MG RESISTOR,B,E	18kΩ,1/10W
		R6050	NRSA02J-101X	MG RESISTOR,A,C,D	100Ω,1/10W
		R6051	QRE141J-101Y	RESISTOR,A,C,D	100Ω,1/4W
		R6052	NRSA02J-101X	MG RESISTOR,A,C,D	100Ω,1/10W
		R6056	NRSA02J-101X	MG RESISTOR,A,C,D	100Ω,1/10W
		R6080	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R7001	NRSA02J-151X	MG RESISTOR	150Ω,1/10W
		R7002	NRSA02J-151X	MG RESISTOR	150Ω,1/10W
		R7003	NRSA02J-151X	MG RESISTOR	150Ω,1/10W
		R7004	NRSA02J-151X	MG RESISTOR	150Ω,1/10W
		R7005	NRSA02J-151X	MG RESISTOR	150Ω,1/10W
		R7006	NRSA02J-151X	MG RESISTOR	150Ω,1/10W
		R7007	NRSA02J-151X	MG RESISTOR	150Ω,1/10W
		R7015	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R7020	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R7021	NRSA02J-122X	MG RESISTOR	1.2kΩ,1/10W
		R7022	NRSA02J-182X	MG RESISTOR	1.8kΩ,1/10W
		R7023	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R7024	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
		R7030	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R7031	NRSA02J-122X	MG RESISTOR	1.2kΩ,1/10W
		R7032	NRSA02J-182X	MG RESISTOR	1.8kΩ,1/10W
		R7033	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R7034	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
		R7035	NRSA02J-472X	MG RESISTOR,E	4.7kΩ,1/10W
		R7036	NRSA02J-682X	MG RESISTOR,E	6.8kΩ,1/10W
		R7160	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R7161	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R7162	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R7163	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
		R7202	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		R7203	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R7204	QRE121J-100Y	RESISTOR	10Ω,1/2W
		VR2251	QVP0039-223Z	TRIM RESISTOR	
		B5	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B10	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B12	NRSA02J-0R0X	MG RESISTOR,A,B,E	0Ω,1/10W
		B13	QUY160-180Y	IM BUS WIRE,C,D	
		B65	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B203	QUY160-100Y	IM BUS WIRE	
		B204	QUY160-080Y	IM BUS WIRE	
		B214	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B302	NRSA02J-0R0X	MG RESISTOR,B,E	0Ω,1/10W
		B2051	QUY153-050Y	IM BUS WIRE,B	
			QUY160-060Y	IM BUS WIRE,A,C,D	
		B2221	QUY160-140Y	IM BUS WIRE	

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		B5001	QUY160-100Y	IM BUS WIRE	
		B5002	QUY160-100Y	IM BUS WIRE	
		B7001	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		C1	NCB21EK-104X	CAPACITOR,E	0.1μF,25V
			NCB21HK-103X	CAPACITOR,A,B,C,D	0.01μF,50V
		C2	NCB21EK-104X	CAPACITOR,E	0.1μF,25V
			NCB21HK-103X	CAPACITOR,A,B,C,D	0.01μF,50V
		C3	NCB21EK-104X	CAPACITOR,E	0.1μF,25V
			NCB21HK-103X	CAPACITOR,A,B,C,D	0.01μF,50V
		C4	NCB21EK-104X	CAPACITOR,E	0.1μF,25V
			NCB21HK-103X	CAPACITOR,A,B,C,D	0.01μF,50V
		C5	QEKC0JM-476	E CAPACITOR	47μF,6.3V
		C6	QDYB1CM-103Y	CAPACITOR	0.01μF,16V
		C7	NCB21HK-102X	CAPACITOR	0.001μF,50V
		C8	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C9	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
		C10	NDC21HJ-151X	CAPACITOR	150pF,50V
		C11	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C12	NDC21HJ-8R0X	CAPACITOR	8pF,50V
		C14	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C15	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C16	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C17	QEKJ1HM-335	E CAPACITOR	3.3μF,50V
		C19	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
		C20	QEPF1HM-105	NP E CAPACITOR	1μF,50V
		C21	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C22	QEKJ0JM-476	E CAPACITOR	47μF,6.3V
		C23	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C24	QCBB1HK-104	CAPACITOR	0.1μF,50V
		C25	NDC21HJ-6R0X	CAPACITOR	6pF,50V
		C26	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C27	NCB21HK-223X	CAPACITOR	0.022μF,50V
		C28	QEKJ1HM-335	E CAPACITOR	3.3μF,50V
		C29	NCB21EK-333X	CAPACITOR	0.033μF,25V
		C30	NCB21CK-474X	CAPACITOR	0.47μF,16V
		C31	QEKJ0JM-476	E CAPACITOR	47μF,6.3V
		C32	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C33	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
		C34	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C35	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C36	QEKJ1HM-475	E CAPACITOR	4.7μF,50V
		C37	QEKJ1HM-105	E CAPACITOR	1μF,50V
		C38	QEKJ0JM-476	E CAPACITOR	47μF,6.3V
		C40	QEKJ1EM-106	E CAPACITOR	10μF,25V
		C44	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C45	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C53	NDC21HJ-101X	CAPACITOR	100pF,50V
		C59	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C61	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C63	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C64	NDC21HJ-220X	CAPACITOR	22pF,50V
		C65	QEKJ1HM-105	E CAPACITOR	1μF,50V
		C69	NCB21HK-103X	CAPACITOR,A,B,C,D	0.01μF,50V
		C70	NCB21HK-103X	CAPACITOR,A,B,C,D	0.01μF,50V
		C72	NDC21HJ-470X	CAPACITOR	47pF,50V
		C73	NDC21HJ-120X	CAPACITOR	12pF,50V
		C78	NCB21HK-103X	CAPACITOR,B,E	0.01μF,50V
		C80	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C84	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
		C92	NDC21HJ-330X	CAPACITOR	33pF,50V
		C103	NCB21HK-103X	CAPACITOR	0.01μF,50V

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
C106	NCB21HK-821X	CAPACITOR	820pF,50V
C108	NDC21HJ-680X	CAPACITOR	68pF,50V
C110	NDC21HJ-820X	CAPACITOR	82pF,50V
C114	NDC21HJ-181X	CAPACITOR	180pF,50V
C201	QEKJ0JM-227	E CAPACITOR	220µF,6.3V
C204	NCB21HK-103X	CAPACITOR	0.01µF,50V
C206	NDC21HJ-330X	CAPACITOR	33pF,50V
C207	NDC21HJ-330X	CAPACITOR	33pF,50V
C209	NCB21CK-474X	CAPACITOR	0.47µF,16V
C210	NDC21HJ-101X	CAPACITOR	100pF,50V
C211	NDC21HJ-101X	CAPACITOR	100pF,50V
C212	NCB21EK-104X	CAPACITOR	0.1µF,25V
C213	QERF1EM-475	E CAPACITOR	4.7µF,25V
C214	NCB21CK-224X	CAPACITOR	0.22µF,16V
C215	NCB21CK-224X	CAPACITOR	0.22µF,16V
C217	NDC21HJ-560X	CAPACITOR	56pF,50V
C218	QEKJ1HM-105	E CAPACITOR	1µF,50V
C222	QEKJ1HM-105	E CAPACITOR	1µF,50V
C225	QERF1AM-227	E CAPACITOR	220µF,10V
C301	NDC21HJ-151X	CAPACITOR,B,E	150pF,50V
C302	NCB21CK-105X	CAPACITOR,B,E	1µF,16V
C303	NCB21HK-682X	CAPACITOR,B,E	0.0068µF,50V
C304	NCB21HK-682X	CAPACITOR,B,E	0.0068µF,50V
C305	NCB21HK-103X	CAPACITOR,B,E	0.01µF,50V
C306	NCB21CK-105X	CAPACITOR,B,E	1µF,16V
C307	NDC21HJ-151X	CAPACITOR,B,E	150pF,50V
C308	NCB21HK-103X	CAPACITOR,B,E	0.01µF,50V
C309	NCB21EK-104X	CAPACITOR,B,E	0.1µF,25V
C310	NCB21HK-103X	CAPACITOR,B,E	0.01µF,50V
C311	NCB21HK-103X	CAPACITOR,B,E	0.01µF,50V
C312	NCB21HK-102X	CAPACITOR,B,E	0.001µF,50V
C313	NCB21CK-474X	CAPACITOR,B,E	0.47µF,16V
C315	NCB21CK-105X	CAPACITOR,B,E	1µF,16V
C316	NCB21HK-103X	CAPACITOR,B,E	0.01µF,50V
C317	NCB21HK-681X	CAPACITOR,B,E	680pF,50V
C318	NCB21EK-223X	CAPACITOR,B,E	0.022µF,25V
C319	NCB21CK-105X	CAPACITOR,B,E	1µF,16V
C320	NCB21HK-103X	CAPACITOR,B,E	0.01µF,50V
C321	NDC21HG-301X	CAPACITOR,B,E	300pF,50V
C322	NCB21CK-474X	CAPACITOR,B,E	0.47µF,16V
C323	QEKJ0JM-476	E CAPACITOR,B,E	47µF,6.3V
C324	NDC21HJ-390X	CAPACITOR,B,E	39pF,50V
C401	NCB21HK-103X	CAPACITOR,E	0.01µF,50V
C402	NCB21HK-223X	CAPACITOR,E	0.022µF,50V
C403	NDC21HJ-131X	CAPACITOR,E	130pF,50V
C404	NDC21HJ-470X	CAPACITOR,E	47pF,50V
C406	NCB21HK-102X	CAPACITOR,E	0.001µF,50V
C407	NDC21HJ-150X	CAPACITOR,E	15pF,50V
C2001	QEKJ1HM-475	E CAPACITOR	4.7µF,50V
C2002	QEKJ1HM-105	E CAPACITOR	1µF,50V
C2003	QEKJ0JM-476	E CAPACITOR	47µF,6.3V
C2005	QEKJ1HM-475	E CAPACITOR	4.7µF,50V
C2006	NCB21HK-123X	CAPACITOR	0.012µF,50V
C2007	QEKJ1CM-226	E CAPACITOR	22µF,16V
C2008	QEKJ1HM-475	E CAPACITOR	4.7µF,50V
C2009	NCB21HK-102X	CAPACITOR	0.001µF,50V
C2010	NCB21HK-152X	CAPACITOR	0.0015µF,50V
C2011	QEKJ1HM-475	E CAPACITOR	4.7µF,50V
C2012	QEKC1HM-475	E CAPACITOR	4.7µF,50V
C2013	NCB21HK-331X	CAPACITOR	330pF,50V
C2017	NCB21HK-682X	CAPACITOR	0.0068µF,50V

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
C2051	NCB21HK-331X	CAPACITOR	330pF,50V
C2052	QFLC1HJ-333Z	F CAPACITOR,E	0.033µF,50V
C2053	NCB21HK-332X	CAPACITOR,E	0.0033µF,50V
	NCB21HK-472X	CAPACITOR,A,B,C,D	0.0047µF,50V
C2054	NCB21EK-223X	CAPACITOR,A,B,C,D	0.022µF,25V
	NCB21HK-103X	CAPACITOR,E	0.01µF,50V
C2055	QEKJ1EM-106	E CAPACITOR	10µF,25V
C2061	QFV91HJ-333	F CAPACITOR,E	0.033µF,50V
	QFV91HJ-823	F CAPACITOR,A,B,C,D	0.082µF,50V
C2062	NCB21HK-332X	CAPACITOR,E	0.0033µF,50V
C2063	NCB21HK-103X	CAPACITOR,E	0.01µF,50V
C2064	QEKJ1EM-106	E CAPACITOR,E	10µF,25V
C2201	QEKJ1EM-106	E CAPACITOR	10µF,25V
C2202	QEKJ1HM-475	E CAPACITOR	4.7µF,50V
C2203	QEKJ1HM-475	E CAPACITOR	4.7µF,50V
C2204	QEKJ0JM-336	E CAPACITOR	33µF,6.3V
C2205	QEKJ1EM-106	E CAPACITOR	10µF,25V
C2206	QEKJ1EM-106	E CAPACITOR	10µF,25V
C2207	NCB21HK-153X	CAPACITOR	0.015µF,50V
C2208	NCB21HK-153X	CAPACITOR	0.015µF,50V
C2209	QERF1CM-106	E CAPACITOR	10µF,16V
C2210	QERF1CM-106	E CAPACITOR	10µF,16V
C2211	QEKJ0JM-336	E CAPACITOR	33µF,6.3V
C2212	QERF0JM-476	E CAPACITOR	47µF,6.3V
C2214	QEKJ1EM-106	E CAPACITOR	10µF,25V
C2215	QEKJ1EM-106	E CAPACITOR	10µF,25V
C2216	QEKJ1CM-476	E CAPACITOR	47µF,16V
C2218	QEKJ1EM-106	E CAPACITOR,A,C,D	10µF,25V
C2219	QEKJ1CM-226	E CAPACITOR,A,C,D	22µF,16V
C2220	QEKJ1EM-106	E CAPACITOR	10µF,25V
C2221	NCB21EK-223X	CAPACITOR	0.022µF,25V
C2222	NCB21HK-103X	CAPACITOR	0.01µF,50V
C2223	NCB21EK-473X	CAPACITOR	0.047µF,25V
C2224	NCB21EK-473X	CAPACITOR	0.047µF,25V
C2225	QEKJ1HM-105	E CAPACITOR	1µF,50V
C2226	QEKJ1HM-105	E CAPACITOR	1µF,50V
C2227	QERF1CM-106	E CAPACITOR	10µF,16V
C2230	QEKJ1EM-106	E CAPACITOR	10µF,25V
C2231	QEKJ1EM-106	E CAPACITOR	10µF,25V
C2251	NCB21HK-103X	CAPACITOR	0.01µF,50V
C2252	NCB21HK-103X	CAPACITOR	0.01µF,50V
C2253	NCB21HK-103X	CAPACITOR	0.01µF,50V
C2254	QEKJ0JM-476	E CAPACITOR	47µF,6.3V
C2255	NCB21HK-103X	CAPACITOR	0.01µF,50V
C2256	NCB21HK-103X	CAPACITOR	0.01µF,50V
C2257	NCB21HK-103X	CAPACITOR	0.01µF,50V
C2258	NDC21HJ-181X	CAPACITOR	180pF,50V
C2259	QEKJ1HM-334	E CAPACITOR	0.33µF,50V
C2261	NDC21HJ-101X	CAPACITOR	100pF,50V
C2262	NDC21HJ-101X	CAPACITOR	100pF,50V
C3008	NDC21HJ-101X	CAPACITOR	100pF,50V
C3011	QETL0JM-338	E CAPACITOR	3300µF,6.3V
C3012	QEKJ0JM-476	E CAPACITOR	47µF,6.3V
C3014	QERF0JM-476	E CAPACITOR	47µF,6.3V
C3015	NCB21EK-104X	CAPACITOR	0.1µF,25V
C3016	NCB21EK-473X	CAPACITOR	0.047µF,25V
C3020	NDC21HJ-101X	CAPACITOR	100pF,50V
C3021	NDC21HJ-101X	CAPACITOR	100pF,50V
C3022	NCB21EK-104X	CAPACITOR	0.1µF,25V
C3024	NDC21HJ-120X	CAPACITOR,B,E	12pF,50V
	NDC21HJ-220X	CAPACITOR,A,C,D	22pF,50V

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		C3025	QAT3725-300Z	TRIM CAPACITOR,A,C,D	
		C3026	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C3027	QEKJ1EM-106	E CAPACITOR	10µF,25V
		C3030	QEKJ0JM-476	E CAPACITOR	47µF,6.3V
		C3031	NCB21EK-473X	CAPACITOR	0.047µF,25V
		C3033	NCB21EK-473X	CAPACITOR	0.047µF,25V
		C3036	NDC21HJ-180X	CAPACITOR	18pF,50V
		C3037	NDC21HJ-120X	CAPACITOR	12pF,50V
		C3040	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C3041	NDC21HJ-150X	CAPACITOR,B,E	15pF,50V
		C3050	NCF21EZ-104X	CAPACITOR	0.1µF,25V
		C3071	QEKJ1CM-336	E CAPACITOR	33µF,16V
		C4002	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C4004	QEKJ1AM-226	E CAPACITOR	22µF,10V
		C4005	NCB21HK-222X	CAPACITOR	0.0022µF,50V
		C4006	QEKJ0JM-476	E CAPACITOR	47µF,6.3V
		C4007	NCB21HK-102X	CAPACITOR,E	0.001µF,50V
		C4008	NCB21AK-105X	CAPACITOR	1µF,10V
		C4009	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		C4010	NCB21EK-223X	CAPACITOR	0.022µF,25V
		C4011	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C4012	QERF1HM-105	E CAPACITOR	1µF,50V
		C4014	NDC21HJ-101X	CAPACITOR	100pF,50V
		C4015	NCB21HK-102X	CAPACITOR	0.001µF,50V
		C4031	QEKJ1CM-336	E CAPACITOR	33µF,16V
	⚠	C5001	QFZ9072-473	F CAPACITOR	0.047µF,250V
	⚠	C5004	QCZ9071-222	CAPACITOR	0.0022µF,250V
		C5006	QEZ0375-686	E CAPACITOR	68µF,400V
		C5101	QCZ0212-472	CAPACITOR	0.0047µF,1kV
		C5102	QCZ0302-330Z	CAPACITOR	33pF,1kV
		C5104	QEKJ1HM-105	E CAPACITOR	1µF,50V
		C5105	QFN31HJ-153	F CAPACITOR	0.015µF,50V
		C5106	QCBB1HJ-271	CAPACITOR	270pF,50V
		C5107	QFV91HJ-104	F CAPACITOR	0.1µF,50V
		C5202	QETN1CM-108	E CAPACITOR	1000µF,16V
		C5203	QEMT1AM-128	E CAPACITOR	1200µF,10V
		C5204	QETJ2AM-475	E CAPACITOR	4.7µF,100V
		C5206	QEKJ1CM-476	E CAPACITOR	47µF,16V
		C5207	QEKJ1CM-107	E CAPACITOR	100µF,16V
		C5301	QEKJ1CM-107	E CAPACITOR	100µF,16V
		C5303	QEKJ1CM-107	E CAPACITOR	100µF,16V
		C5305	QFVF1HJ-274Z	F CAPACITOR	0.27µF,50V
		C5307	QEKJ1CM-476	E CAPACITOR	47µF,16V
		C5308	QEKJ1CM-107	E CAPACITOR	100µF,16V
		C6008	NCB21HK-103X	CAPACITOR,B,E	0.01µF,50V
		C6013	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C6032	NCB21EK-473X	CAPACITOR,A,C,D	0.047µF,25V
		C6037	QEKJ1EM-106	E CAPACITOR	10µF,25V
		C6055	NDC21HJ-220X	CAPACITOR,A,C,D	22pF,50V
		C6056	NDC21HJ-470X	CAPACITOR,A,C,D	47pF,50V
		C6501	QEKJ0JM-227	E CAPACITOR,B,E	220µF,6.3V
			QEKJ1EM-106	E CAPACITOR,A,C,D	10µF,25V
		C6502	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C7011	QEKJ0JM-476	E CAPACITOR	47µF,6.3V
		C7165	NCB21HK-681X	CAPACITOR	680pF,50V
		C7167	NCB21HK-681X	CAPACITOR	680pF,50V
		C7202	QETJ0JM-477	E CAPACITOR	470µF,6.3V
		L1	QQL29BJ-100Z	COIL	10µH
		L2	QQL071J-121Y	COIL	120µH
		L3	QQL29BJ-100Z	COIL	10µH
		L4	QQL29BJ-100Z	COIL	10µH

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		L5	QQR0521-012Z	NOISE FILTER	
		L12	QQR0967-001	COIL	12µH
		L13	QQL071J-330Y	COIL	33µH
		L15	QQL29BJ-100Z	COIL	10µH
		L18	QQL071J-220Y	COIL	22µH
		L19	QQL071J-120Y	COIL	12µH
		L20	QUY153-050Y	IM BUS WIRE	
		L22	QQL231J-1R0Y	COIL	1.0µH
		L24	QQL071J-270Y	COIL	27µH
		L27	QQL071J-330Y	COIL	33µH
		L28	QQL071J-680Y	COIL	68µH
		L201	QQL29BK-1R0Z	COIL	1.0µH
		L202	QUY153-050Y	IM BUS WIRE	
		L203	QQL29BJ-220Z	COIL	22µH
		L204	QQL29BJ-100Z	COIL	10µH
		L206	QQL071J-220Y	COIL	22µH
		L301	QQL29BJ-100Z	COIL,B,E	10µH
		L302	QQL231J-6R8Y	COIL,B,E	6.8µH
		L303	QQL231J-270Y	COIL,B,E	27µH
		L304	QQL29BJ-101Z	COIL,B,E	100µH
		L401	QQL071J-150Y	COIL,E	15µH
		L402	QUY153-050Y	IM BUS WIRE,E	
		L2001	QUY153-050Y	IM BUS WIRE	
		L2201	QUY153-050Y	IM BUS WIRE	
		L2251	QQL29BJ-100Z	COIL	10µH
		L2252	QQL29BJ-151Z	COIL	150µH
		L4001	QUY153-050Y	IM BUS WIRE	
		L5201	PELN1184	COIL	33µH
		L5202	PELN1184	COIL	33µH
		L6001	QQL29BJ-100Z	COIL	10µH
		L6002	QQL29BJ-100Z	COIL	10µH
		L6501	QUY153-050Y	IM BUS WIRE	
		L7201	QQL29BJ-100Z	COIL	10µH
		X1	QAX0576-001Z	CRYSTAL RESONATOR	
		X2	QCBB1HK-103	CAPACITOR,C,D	0.01µF,50V
		X3001	QAX0444-001	CRYSTAL RESONATOR,B,E	
			QAX0445-001	CRYSTAL RESONATOR,A,C,D	
		X3002	QAX0527-001	CRYSTAL RESONATOR	
		S3001	QSW0602-004	PUSH SWITCH	
		S3002	QSW0602-004	PUSH SWITCH	
		S7001	QSW0456-002Z	TACT SWITCH	
		S7002	QSW0456-002Z	TACT SWITCH	
		S7004	QSW0456-002Z	TACT SWITCH	
		S7006	QSW0456-002Z	TACT SWITCH	
		S7008	QSW0456-002Z	TACT SWITCH	
		S7010	QSW0456-002Z	TACT SWITCH	
		S7012	QSW0456-002Z	TACT SWITCH	
		S7016	QSW0456-002Z	TACT SWITCH	
		K2001	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		K2002	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		K2003	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		K2004	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		K2251	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		K2252	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		K2253	NQR0007-001X	FERRATE BEADS	
		K5101	QQR0678-001Z	FERRATE BEADS	
		K5102	QUY153-050Y	IM BUS WIRE	
		PC3001	RPI-304J	IC(PHOTO SENSOR)	
		PC3002	RPI-304J	IC(PHOTO SENSOR)	
	⚠	PC5101	PS2561L1-1/L/	IC(PHOTO COUPLE)	
		T2051	PELN0832	OSC TRANSFORMER,A,B,C,D	
			PELN0860	OSC TRANSFORMER,E	

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		T2052	PELN0861	OSC TRANSFORMER,E	
	⚠	T5001	QQS0083-001	SW TRANSF	
		TU6001	QAU0261-002	TUNER,A,C,D	
			QAU0266-001	TUNER,B,E	
		SD1	LP21105-001A	SHIELD CASE	
		DI7001	LTG-0126M-03J	LE DIODE	
		ET1	PQ21623-2-5	EARTH PLATE(RF)	
		HS1	LP40090-001A	HEAT SINK,Q5101	
		JS3001	QSW0954-002	ROTARY ENCODER	
		J7105	QNN0381-002	PIN JACK	
		OT1	QYTDSF3010Z	SCREW,X2,TERMINAL	
		OT2	PU59915-110	#500SPACER0.014	
		OT3	QYTDST3006Z	SCREW,Q5101	
		OT4	PM30130-001	SPACER,B,E	
		FC5001	QNG0006-001Z	FUSE CLIP	
		FC5002	QNG0006-001Z	FUSE CLIP	
	⚠	LF5002	QQR0978-001	LINE FILTER	
		WR6501	QUB321-16A2A2	SIN TWIST WIRE,B,E	
		CN1	QGF1201C2-09	FPC CONNECTOR,(1-9)DRUM,A,B,C,D	
			QGF1201C2-11	FPC CONNECTOR,(1-11)DRUM,E	
		CN901	QGB2024K1-10S	CONNECTOR,(1-10)TERMINAL	
		CN902	QGB2024K1-12S	CONNECTOR,(1-12)TERMINAL	
		CN903	QGB2024K1-10S	CONNECTOR,(1-10)TERMINAL	
		CN904	QGB2024K1-11S	CONNECTOR,(1-11)TERMINAL	
		CN905	QGB2024K1-09S	CONNECTOR,(1-9)TERMINAL	
		CN2001	QGF1207C1-06	FPC CONNECTOR,(1-6)AC/HEAD	
		CN2002	QGB2532J1-02	CONNECTOR,(1-2)FE HEAD	
		CN3001	QGB2032M4-12	CONNECTOR,(1-12)CAPSTAN MOTOR	
	⚠	CN5001	QGA7901C3-02	CONNECTOR,(1-2)AC IN	
		CN7001	QGF1207C1-04	FPC CONNECTOR,(3-6)ADV.JOG,A,B,C,D	
			QGF1207C1-06	FPC CONNECTOR,(1-6)ADV.JOG,E	
	⚠	CP3001	QMFZ050-1R5X-E	FUSE T1.5A	
	⚠	CP4001	QMFZ050-1R5X-E	FUSE T1.5A	
	⚠	F5001	QMF51E2-2R0J1	FUSE T2.0A,AC250V	

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2D D BOARD ASSEMBLY <05> [HR-S6950EU/S6955MS/S7955MS]

PW1	LPA10162-02C	2D DIGITAL BOARD ASSY	
IC1201	JCP8036	IC	
Q1201	2SC1317/RS/-T	TRANSISTOR	
Q1202	2SA1576A/QR/-X	TRANSISTOR	
	or 2PA1576/R/-X	TRANSISTOR	
Q1203	2SA1576A/QR/-X	TRANSISTOR	
	or 2PA1576/R/-X	TRANSISTOR	
Q1204	2SC4081/QRS/-X	TRANSISTOR	
	or 2PC4081/R/-X	TRANSISTOR	
Q1205	2SC4081/S/-X	TRANSISTOR	
D1201	RD4.3ES/B3/-T2	ZENER DIODE	
R1201	NRSA02J-121X	MG RESISTOR	120Ω,1/10W
R1202	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R1203	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
R1204	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
R1205	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R1206	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
R1207	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
R1208	NRSA02J-123X	MG RESISTOR	12kΩ,1/10W
R1209	NRSA02J-180X	MG RESISTOR	18Ω,1/10W

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		R1210	NRVA02D-393X	CMF RESISTOR	39kΩ,1/10W
		R1211	NRVA02D-153X	CMF RESISTOR	15kΩ,1/10W
		R1212	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1213	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
		R1214	NRSA02J-121X	MG RESISTOR	120Ω,1/10W
		R1215	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1216	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
		R1217	NRVA02D-101X	CMF RESISTOR	100Ω,1/10W
		R1218	NRVA02D-301X	CMF RESISTOR	300Ω,1/10W
		R1220	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
		R1222	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R1224	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
		VR1201	QUY153-050Y	IM BUS WIRE	
		C1201	QEKJ0JM-476	E CAPACITOR	47µF,6.3V
		C1208	NDC21HJ-221X	CAPACITOR	220pF,50V
		C1210	NDC21HJ-330X	CAPACITOR	33pF,50V
		C1211	QEKJ0JM-476	E CAPACITOR	47µF,6.3V
		C1212	NCB21HK-102X	CAPACITOR	0.001µF,50V
		C1213	NCF21EZ-104X	CAPACITOR	0.1µF,25V
		C1214	NCF21CZ-105X	CAPACITOR	1µF,16V
		C1215	QEKJ0JM-476	E CAPACITOR	47µF,6.3V
		C1216	NCF21EZ-104X	CAPACITOR	0.1µF,25V
		C1217	NCF21EZ-104X	CAPACITOR	0.1µF,25V
		C1218	NCF21EZ-104X	CAPACITOR	0.1µF,25V
		C1219	NCF21CZ-105X	CAPACITOR	1µF,16V
		C1220	QEKJ0JM-476	E CAPACITOR	47µF,6.3V
		C1222	NDC21HJ-820X	CAPACITOR	82pF,50V
		C1223	NDC21HJ-270X	CAPACITOR	27pF,50V
		C1225	NDC21HJ-820X	CAPACITOR	82pF,50V
		C1226	NDC21HJ-270X	CAPACITOR	27pF,50V
		C1227	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C1228	QEKJ1EM-475	E CAPACITOR	4.7µF,25V
		C1229	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C1230	NCF21EZ-104X	CAPACITOR	0.1µF,25V
		C1231	NCF21EZ-104X	CAPACITOR	0.1µF,25V
		C1232	NCF21EZ-104X	CAPACITOR	0.1µF,25V
		C1233	QDYB1CM-103Y	CAPACITOR	0.01µF,16V
		C1234	NCF21EZ-104X	CAPACITOR	0.1µF,25V
		C1235	QEKJ0JM-476	E CAPACITOR	47µF,6.3V
		C1236	NCF21EZ-104X	CAPACITOR	0.1µF,25V
		C1237	NCF21EZ-104X	CAPACITOR	0.1µF,25V
		C1238	NDC21HJ-180X	CAPACITOR	18pF,50V
		C1239	NDC21HJ-560X	CAPACITOR	56pF,50V
		C1243	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C1244	QEKJ1EM-475	E CAPACITOR	4.7µF,25V
		C1245	NDC21HJ-150X	CAPACITOR	15pF,50V
		C1246	QEKJ0JM-476	E CAPACITOR	47µF,6.3V
		L1201	QQL071J-1R0Y	COIL	1.0µH
		L1202	QRE141J-181Y	RESISTOR	180Ω,1/4W
		L1203	QQL29BJ-331Z	COIL	330µH
		L1204	QQL29BJ-221Z	COIL	220µH
		L1205	QQL071J-6R8Y	COIL	6.8µH
		L1206	QQL071J-6R8Y	COIL	6.8µH
		L1207	QQL29BJ-221Z	COIL	220µH
		L1208	QQL071J-150Y	COIL	15µH
		LC1201	QQL29BJ-101Z	COIL	100µH
		SD1	LP31098-001B	SHIELD CASE(DEG)	
		BK1	LP40425-001A	BRACKET(BOARD)	
		CN1201	QGG2502K1-12	HEADER PIN,(1-12)MAIN	

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
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3D D/2M BOARD ASSEMBLY <05> [HR-S7950EU/S7955EK]

		PW1	LPA10105-07A	3D D/2M BOARD ASSY
		IC1401	JCP8026	IC
	⚠	Q1401	2SC1317/RS/-T	TRANSISTOR
		Q1402	2SA1576A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
		Q1406	2SA1576A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
		Q1408	2SC4081/S/-X	TRANSISTOR
		Q1410	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q1412	2SA1576A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
		Q1418	2SA1576A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
		Q1419	DTC124TU	DIGI TRANSISTOR
		D1401	RD4.3ES/B3/-T2	ZENER DIODE
			or MTZJ4.3B	ZENER DIODE
		D1402	1SS133	DIODE
			or 1N4148M	DIODE
		R1401	NRSA02J-121X	MG RESISTOR 120Ω,1/10W
		R1402	NRSA02J-101X	MG RESISTOR 100Ω,1/10W
		R1404	NRSA02J-272X	MG RESISTOR 2.7kΩ,1/10W
		R1406	NRSA02J-221X	MG RESISTOR 220Ω,1/10W
		R1410	NRSA02J-391X	MG RESISTOR 390Ω,1/10W
		R1411	NRSA02J-152X	MG RESISTOR 1.5kΩ,1/10W
		R1413	NRSA02J-221X	MG RESISTOR 220Ω,1/10W
		R1415	NRVA02D-221X	CMF RESISTOR 220Ω,1/10W
		R1416	NRSA02J-104X	MG RESISTOR 100kΩ,1/10W
		R1417	NRSA02J-101X	MG RESISTOR 100Ω,1/10W
		R1418	NRSA02J-471X	MG RESISTOR 470Ω,1/10W
		R1421	NRSA02J-331X	MG RESISTOR 330Ω,1/10W
		R1426	NRSA02J-561X	MG RESISTOR 560Ω,1/10W
		R1427	NRSA02J-333X	MG RESISTOR 33kΩ,1/10W
		R1428	NRSA02J-393X	MG RESISTOR 39kΩ,1/10W
		R1429	NRSA02J-182X	MG RESISTOR 1.8kΩ,1/10W
		R1430	NRSA02J-222X	MG RESISTOR 2.2kΩ,1/10W
		R1431	NRSA02J-821X	MG RESISTOR 820Ω,1/10W
		R1433	NRSA02J-510X	MG RESISTOR 51Ω,1/10W
		R1434	NRVA02D-153X	CMF RESISTOR 15kΩ,1/10W
		R1435	NRVA02D-473X	CMF RESISTOR 47kΩ,1/10W
		R1436	NRVA02D-393X	CMF RESISTOR 39kΩ,1/10W
		R1437	NRSA02J-392X	MG RESISTOR 3.9kΩ,1/10W
		R1438	NRSA02J-473X	MG RESISTOR 47kΩ,1/10W
		R1439	NRSA02J-273X	MG RESISTOR 27kΩ,1/10W
		R1440	NRSA02J-473X	MG RESISTOR 47kΩ,1/10W
		R1445	NRVA02D-393X	CMF RESISTOR 39kΩ,1/10W
		R1446	NRSA02J-102X	MG RESISTOR 1kΩ,1/10W
		R1447	NRSA02J-102X	MG RESISTOR 1kΩ,1/10W
		R1448	NRSA02J-102X	MG RESISTOR 1kΩ,1/10W
		R1449	NRSA02J-102X	MG RESISTOR 1kΩ,1/10W
		R1450	NRSA02J-102X	MG RESISTOR 1kΩ,1/10W
		R1452	NRSA02J-471X	MG RESISTOR 470Ω,1/10W
		R1453	NRSA02J-102X	MG RESISTOR 1kΩ,1/10W
		R1455	NRSA02J-681X	MG RESISTOR 680Ω,1/10W
		R1459	NRSA02J-681X	MG RESISTOR 680Ω,1/10W
		R1460	NRSA02J-273X	MG RESISTOR 27kΩ,1/10W
		VR1401	QUY153-050Y	IM BUS WIRE
		B1401	NRSA02J-0R0X	MG RESISTOR 0Ω,1/10W
		B1412	NRSA02J-0R0X	MG RESISTOR 0Ω,1/10W
		C1401	QEKJ1CM-336	E CAPACITOR 33µF,16V
		C1403	QEKJ0JM-337	E CAPACITOR 330µF,6.3V
		C1404	NCF21EZ-104X	CAPACITOR 0.1µF,25V
		C1405	NCF21EZ-104X	CAPACITOR 0.1µF,25V
		C1406	NCB21HK-103X	CAPACITOR 0.01µF,50V
		C1407	NDC21HJ-680X	CAPACITOR 68pF,50V
		C1408	NDC21HJ-330X	CAPACITOR 33pF,50V
		C1410	QEKJ1HM-475	E CAPACITOR 4.7µF,50V
		C1411	NCF21EZ-104X	CAPACITOR 0.1µF,25V
		C1412	NDC21HJ-680X	CAPACITOR 68pF,50V
		C1413	NDC21HJ-330X	CAPACITOR 33pF,50V
		C1415	NCF21EZ-104X	CAPACITOR 0.1µF,25V
		C1416	QEKJ1EM-106	E CAPACITOR 10µF,25V
		C1417	NCF21EZ-104X	CAPACITOR 0.1µF,25V
		C1421	NDC21HJ-330X	CAPACITOR 33pF,50V
		C1422	NDC21HJ-680X	CAPACITOR 68pF,50V
		C1423	NCF21EZ-104X	CAPACITOR 0.1µF,25V
		C1424	NCB21HK-103X	CAPACITOR 0.01µF,50V
		C1425	NCB21HK-103X	CAPACITOR 0.01µF,50V
		C1426	NDC21HJ-390X	CAPACITOR 39pF,50V
		C1428	NDC21HJ-220X	CAPACITOR 22pF,50V
		C1429	QEKJ0JM-337	E CAPACITOR 330µF,6.3V
		C1430	NCF21EZ-104X	CAPACITOR 0.1µF,25V
		C1432	NCF21CZ-105X	CAPACITOR 1µF,16V
		C1433	NCF21EZ-104X	CAPACITOR 0.1µF,25V
		C1435	NCF21EZ-104X	CAPACITOR 0.1µF,25V
		C1436	NCF21EZ-104X	CAPACITOR 0.1µF,25V
		C1437	NCF21EZ-104X	CAPACITOR 0.1µF,25V
		C1438	NCF21EZ-104X	CAPACITOR 0.1µF,25V
		C1439	NCB21HK-103X	CAPACITOR 0.01µF,50V
		C1440	NCF21EZ-104X	CAPACITOR 0.1µF,25V
		C1441	NCF21EZ-104X	CAPACITOR 0.1µF,25V
		C1442	NCF21CZ-105X	CAPACITOR 1µF,16V
		C1444	NCF21EZ-104X	CAPACITOR 0.1µF,25V
		C1445	NCF21EZ-104X	CAPACITOR 0.1µF,25V
		C1446	QEKJ0JM-476	E CAPACITOR 47µF,6.3V
		C1447	NCF21EZ-104X	CAPACITOR 0.1µF,25V
		C1448	QEKJ0JM-476	E CAPACITOR 47µF,6.3V
		C1449	NCF21EZ-104X	CAPACITOR 0.1µF,25V
		C1450	NCF21EZ-104X	CAPACITOR 0.1µF,25V
		C1451	QEKJ1HM-475	E CAPACITOR 4.7µF,50V
		C1452	NCF21EZ-104X	CAPACITOR 0.1µF,25V
		C1453	NCF21EZ-104X	CAPACITOR 0.1µF,25V
		C1454	NCF21EZ-104X	CAPACITOR 0.1µF,25V
		C1463	QEKJ0JM-336	E CAPACITOR 33µF,6.3V
		C1468	NDC21HJ-101X	CAPACITOR 100pF,50V
		C1470	NDC21HJ-330X	CAPACITOR 33pF,50V
		C1471	NCF21EZ-104X	CAPACITOR 0.1µF,25V
		C1472	NCF21EZ-104X	CAPACITOR 0.1µF,25V
		C1473	NCF21EZ-104X	CAPACITOR 0.1µF,25V
		L1401	QUY153-050Y	IM BUS WIRE
		L1402	QQL071J-6R8Y	COIL 6.8µH
		L1403	QQL071J-6R8Y	COIL 6.8µH
		L1404	QQL071J-6R8Y	COIL 6.8µH
		L1405	QQL29BJ-100Z	COIL 10µH
		L1406	QQL071J-330Y	COIL 33µH
		L1407	QQL29BJ-100Z	COIL 10µH
		L1409	QQL071J-1R0Y	COIL 1.0µH
	⚠	LC1401	QQL29BJ-101Z	COIL 100µH

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
		LC1402	QQR0521-006Z	NOISE FILTER
		SD1	LP30706-001C	S.FRAME(S-VHS)
		SD2	LP30684-001A	S.CASE(S-VHS)
		CN1401	QGG2502K1-17	HEADER PIN,(1-17)MAIN

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TERMINAL BOARD ASSEMBLY <06>

	PW1	LPA10138-07A	TERMINAL BOARD ASSY,A
		LPA10138-08A	TERMINAL BOARD ASSY,C,D
		LPA10138-09A	TERMINAL BOARD ASSY,E
		LPA10138-11A	TERMINAL BOARD ASSY,B
	IC501	JCP8018	IC
		or JCP8028	IC
		or JCP8028-01	IC
		or JCP8038	IC
	IC502	VC2076DP	IC
	IC901	BH7636S	IC
	Q901	UN5211	DIGI TRANSISTOR
		or DTC114EU	DIGI TRANSISTOR
		or PDTC114EU	DIGI TRANSISTOR
		or RN1302	DIGI TRANSISTOR
	Q902	2SB1218A/QR/-X	TRANSISTOR
		or 2PA1576/R/-X	TRANSISTOR
		or 2SA1576A/QR/-X	TRANSISTOR
	Q903	2SB1218A/QR/-X	TRANSISTOR,C,D,E
		or 2PA1576/R/-X	TRANSISTOR,C,D,E
		or 2SA1576A/QR/-X	TRANSISTOR,C,D,E
	Q904	2SB1218A/QR/-X	TRANSISTOR,C,D,E
		or 2PA1576/R/-X	TRANSISTOR,C,D,E
		or 2SA1576A/QR/-X	TRANSISTOR,C,D,E
	Q905	UN521E	DIGI TRANSISTOR
		or DTC144WU	DIGI TRANSISTOR
		or PDTC144WU	DIGI TRANSISTOR
		or RN1309	DIGI TRANSISTOR
	Q906	2SD1819A/QRS/-X	TRANSISTOR
		or 2PC4081/R/-X	TRANSISTOR
		or 2SC4081/QRS/-X	TRANSISTOR
	Q907	2SD1819A/QRS/-X	TRANSISTOR
		or 2PC4081/R/-X	TRANSISTOR
		or 2SC4081/QRS/-X	TRANSISTOR
	Q908	2SD1819A/QRS/-X	TRANSISTOR
		or 2PC4081/R/-X	TRANSISTOR
		or 2SC4081/QRS/-X	TRANSISTOR
	Q909	2SB1218A/QR/-X	TRANSISTOR
		or 2PA1576/R/-X	TRANSISTOR
		or 2SA1576A/QR/-X	TRANSISTOR
	Q910	2SB1218A/QR/-X	TRANSISTOR
		or 2PA1576/R/-X	TRANSISTOR
		or 2SA1576A/QR/-X	TRANSISTOR
	Q911	UN521E	DIGI TRANSISTOR
		or DTC144WU	DIGI TRANSISTOR
		or PDTC144WU	DIGI TRANSISTOR
		or RN1309	DIGI TRANSISTOR
	Q912	UN5215	DIGI TRANSISTOR
		or DTC114TU	DIGI TRANSISTOR
		or PDTC114TU	DIGI TRANSISTOR

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
			or RN1311	TRANSISTOR	
		R503	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		R504	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
		R505	NRSA02J-392X	MG RESISTOR	3.9kΩ,1/10W
		R506	NRSA02J-391X	MG RESISTOR	390Ω,1/10W
		R507	NRSA02J-122X	MG RESISTOR	1.2kΩ,1/10W
		R508	NRSA02J-151X	MG RESISTOR	150Ω,1/10W
		R509	NRSA02J-162X	MG RESISTOR	1.6kΩ,1/10W
		R510	NRVA02D-102X	CMF RESISTOR	1kΩ,1/10W
		R511	NRVA02D-471X	CMF RESISTOR	470Ω,1/10W
		R512	NRVA02D-102X	CMF RESISTOR	1kΩ,1/10W
		R513	NRVA02D-152X	CMF RESISTOR	1.5kΩ,1/10W
		R514	NRVA02D-332X	CMF RESISTOR	3.3kΩ,1/10W
		R515	NRVA02D-332X	CMF RESISTOR	3.3kΩ,1/10W
		R516	QUY160-100Y	IM BUS WIRE	
		R517	QUY160-100Y	IM BUS WIRE	
		R525	QRE141J-125Y	RESISTOR	1.2MΩ,1/4W
		R527	NRSA02J-332X	MG RESISTOR,A,C,D	3.3kΩ,1/10W
		R531	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R532	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R533	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R534	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R535	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R536	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R901	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
		R902	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
		R903	QRE141J-680Y	RESISTOR	68Ω,1/4W
		R904	NQL402M-4R7X	COIL	4.7µH
		R905	NQL402M-4R7X	COIL	4.7µH
		R906	QQL231J-100Y	COIL	10µH
		R907	QQL231J-100Y	COIL	10µH
		R908	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R909	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
		R910	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
		R911	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
		R912	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R913	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R914	QQL231J-100Y	COIL	10µH
		R915	QQL231J-100Y	COIL	10µH
		R916	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R917	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R918	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R919	QRE141J-101Y	RESISTOR,C,D,E	100Ω,1/4W
		R920	QRE141J-101Y	RESISTOR,C,D,E	100Ω,1/4W
		R921	QRE121J-391Y	RESISTOR,C,D,E	390Ω,1/2W
		R922	QRE121J-391Y	RESISTOR,C,D,E	390Ω,1/2W
		R923	NRSA02J-750X	MG RESISTOR,C,D,E	75Ω,1/10W
		R924	NRSA02J-750X	MG RESISTOR,C,D,E	75Ω,1/10W
		R929	NRSA02J-820X	MG RESISTOR	82Ω,1/10W
		R930	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
		R931	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R932	NRSA02J-511X	MG RESISTOR	510Ω,1/10W
		R933	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R934	QRE141J-101Y	RESISTOR	100Ω,1/4W
		R935	QRE141J-101Y	RESISTOR	100Ω,1/4W
		R936	QRE141J-101Y	RESISTOR	100Ω,1/4W
		R937	QRE141J-101Y	RESISTOR	100Ω,1/4W
		R938	QRE141J-101Y	RESISTOR	100Ω,1/4W
		R939	QRE141J-101Y	RESISTOR	100Ω,1/4W
		R940	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R941	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		R942	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R943	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R944	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
		R945	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R946	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
		R947	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R949	QRE121J-331Y	RESISTOR	330Ω,1/2W
		R951	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
		R952	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
		R953	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
		R964	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		C501	QEKJ1HM-225	E CAPACITOR	2.2µF,50V
		C502	QEKJ1HM-475	E CAPACITOR	4.7µF,50V
		C503	QEKJ1HM-225	E CAPACITOR	2.2µF,50V
		C504	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C505	QEKJ1HM-475	E CAPACITOR	4.7µF,50V
		C506	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C507	QEKJ0JM-476	E CAPACITOR	47µF,6.3V
		C508	QEKJ1HM-474	E CAPACITOR	0.47µF,50V
		C509	QEKJ1CM-106	E CAPACITOR	10µF,16V
		C510	QEKJ0JM-476	E CAPACITOR	47µF,6.3V
		C511	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C512	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C513	QEKJ1HM-475	E CAPACITOR	4.7µF,50V
		C514	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C515	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C516	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C518	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C519	QEKJ1HM-225	E CAPACITOR	2.2µF,50V
		C520	QEKJ1HM-475	E CAPACITOR	4.7µF,50V
		C521	QEKJ1HM-475	E CAPACITOR	4.7µF,50V
		C522	QEKJ1HM-225	E CAPACITOR	2.2µF,50V
		C523	QEKJ1HM-225	E CAPACITOR	2.2µF,50V
		C524	NDC21HG-301X	CAPACITOR	300pF,50V
		C525	NDC21HG-301X	CAPACITOR	300pF,50V
		C526	NDC21HJ-101X	CAPACITOR	100pF,50V
		C527	NDC21HJ-181X	CAPACITOR	180pF,50V
		C528	NDC21HG-271X	CAPACITOR	270pF,50V
		C529	NDC21HG-820X	CAPACITOR	82pF,50V
		C530	NDC21HG-221X	CAPACITOR	220pF,50V
		C531	NDC21HG-301X	CAPACITOR	300pF,50V
		C532	NDC21HG-301X	CAPACITOR	300pF,50V
		C533	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C534	QEKJ0JM-476	E CAPACITOR	47µF,6.3V
		C535	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C551	QEKJ1HM-105	E CAPACITOR	1µF,50V
		C553	QCBB1HK-103	CAPACITOR	0.01µF,50V
		C554	QEKJ1HM-105	E CAPACITOR	1µF,50V
		C556	QCBB1HK-103	CAPACITOR	0.01µF,50V
		C557	QEKJ1HM-105	E CAPACITOR	1µF,50V
		C559	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C560	QEKJ1HM-105	E CAPACITOR	1µF,50V
		C561	QEKJ1HM-105	E CAPACITOR	1µF,50V
		C562	QEKJ1HM-105	E CAPACITOR,B,E	1µF,50V
		C563	NCB21HK-103X	CAPACITOR,A,C,D	0.01µF,50V
		C564	NCB21HK-103X	CAPACITOR,B,E	0.01µF,50V
		C566	NCB21HK-103X	CAPACITOR,B,E	0.01µF,50V
		C568	NDC21HJ-680X	CAPACITOR	68pF,50V
		C569	NDC21HJ-680X	CAPACITOR	68pF,50V
		C570	NDC21HJ-680X	CAPACITOR	68pF,50V
		C571	NDC21HJ-680X	CAPACITOR	68pF,50V
		C572	NDC21HJ-680X	CAPACITOR	68pF,50V
		C573	NDC21HJ-680X	CAPACITOR	68pF,50V
		C575	NDC21HJ-101X	CAPACITOR	100pF,50V
		C901	NCB21HK-331X	CAPACITOR	330pF,50V
		C902	NCB21HK-331X	CAPACITOR	330pF,50V
		C903	NCB21HK-471X	CAPACITOR	470pF,50V
		C904	NCB21HK-471X	CAPACITOR	470pF,50V
		C905	NCB21HK-331X	CAPACITOR	330pF,50V
		C906	NCB21HK-331X	CAPACITOR	330pF,50V
		C907	NCB21HK-471X	CAPACITOR	470pF,50V
		C908	NCB21HK-471X	CAPACITOR	470pF,50V
		C910	NCB21HK-102X	CAPACITOR	0.001µF,50V
		C912	NCB21HK-102X	CAPACITOR	0.001µF,50V
		C913	NCB21HK-103X	CAPACITOR,C,D,E	0.01µF,50V
		C914	NCB21HK-103X	CAPACITOR,C,D,E	0.01µF,50V
		C915	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C916	NCB21HK-223X	CAPACITOR	0.022µF,50V
		C917	NCB21HK-223X	CAPACITOR	0.022µF,50V
		C918	QCBB1HK-223	CAPACITOR	0.022µF,50V
		C921	NDC21HJ-330X	CAPACITOR	33pF,50V
		C923	QEKJ1CM-476	E CAPACITOR	47µF,16V
		C924	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C925	NCB21HK-223X	CAPACITOR	0.022µF,50V
		C927	QEKJ1CM-476	E CAPACITOR	47µF,16V
		C928	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C931	QEKJ1EM-106	E CAPACITOR	10µF,25V
		C935	NCB21HK-471X	CAPACITOR	470pF,50V
		C936	NCB21HK-471X	CAPACITOR	470pF,50V
		C937	NCB21HK-331X	CAPACITOR	330pF,50V
		C938	NCB21HK-331X	CAPACITOR	330pF,50V
		C939	NCB21HK-471X	CAPACITOR	470pF,50V
		C940	NCB21HK-471X	CAPACITOR	470pF,50V
		C941	QEKJ0JM-227	E CAPACITOR,C,D,E	220µF,6.3V
		C942	QEKJ1CM-476	E CAPACITOR,C,D,E	47µF,16V
		C943	QEKJ1CM-107	E CAPACITOR	100µF,16V
		C945	QEKJ1EM-106	E CAPACITOR	10µF,25V
		C946	QEKJ1EM-106	E CAPACITOR	10µF,25V
		C950	QEKJ0JM-227	E CAPACITOR,C,D,E	220µF,6.3V
		C951	QEKC1CM-476	E CAPACITOR	47µF,16V
		C958	NCB21HK-331X	CAPACITOR	330pF,50V
		C959	NCB21HK-331X	CAPACITOR	330pF,50V
		L501	QQL29BJ-100Z	COIL	10µH
		L503	QQL29BJ-100Z	COIL	10µH
		L504	QQL29BJ-100Z	COIL	10µH
		L505	QUY153-050Y	IM BUS WIRE	
		L901	QQL231J-R22Y	COIL	0.22µH
		L902	QQL071J-1R0Y	COIL	1.0µH
		L903	QQL071J-150Y	COIL	15µH
		L904	QQL071J-150Y	COIL	15µH
		L906	QUY153-050Y	IM BUS WIRE,C,D,E	
		L907	QUY153-050Y	IM BUS WIRE	
		L910	QQL071J-1R0Y	COIL	1.0µH
		L913	QQL071J-4R7Y	COIL	4.7µH
		L914	QQL071J-4R7Y	COIL	4.7µH
		L915	QQL071J-4R7Y	COIL	4.7µH
		L916	QQL071J-4R7Y	COIL	4.7µH
		L917	QQL071J-4R7Y	COIL	4.7µH
		L918	QQL071J-4R7Y	COIL	4.7µH
		L919	QQL071J-4R7Y	COIL	4.7µH
		L920	QQL071J-4R7Y	COIL	4.7µH
		ET1	LP30918-001A	EARTH PLATE	

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		ET2	LP30915-001A	EARTH PLATE	
	⚠	TB1	LP21028-001A	TERMINAL BOARD,A,B	
	⚠		LP21028-002A	TERMINAL BOARD,C,D,E	
		J901	PEMC1177	RGB21PIN SOCKET	
		J902	PEMC1177	RGB21PIN SOCKET	
		J904	QND0084-001	S JACK,C,D,E	
		J915	QNN0418-003	PIN JACK	
		J916	QNN0418-002	PIN JACK	
		J921	PU60659	MINI JACK	
		J922	PU60659	MINI JACK,C,D,E	
		OT1	QYTDSF3008Z	SCREW,X6	
		CN511	QGF1208F1-11	FPC CONNECTOR,(1-11)S/P CONV.,B,E	
		CN911	QGB2024J1-10S	CONNECTOR,(1-10)MAIN	
		CN912	QGB2024J1-12S	CONNECTOR,(1-12)MAIN	
		CN913	QGB2024J1-10S	CONNECTOR,(1-10)MAIN	
		CN914	QGB2024J1-11S	CONNECTOR,(1-10)MAIN	
		CN915	QGB2024J1-09S	CONNECTOR,(1-9)MAIN	
		CN916	QGF1208F1-04	FPC CONNECTOR,(1-4)FROM S IN	

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A/C HEAD BOARD ASSEMBLY <12>

	PW1	LPA10158-01A1	A/C HEAD BOARD ASSY

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DEMOD BOARD ASSEMBLY <14>

	PW1	LPA10094-09A	DEMOD BOARD ASSY,A,C,D	
		LPA10094-10B	DEMOD BOARD ASSY,B,E	
	IC6701	MSP3417D	IC	
		or MSP3417DG3	IC	
		or MSP3417G	IC	
	Q6701	2SC3936/BC/-X	TRANSISTOR	
	D6701	1SS133	DIODE	
		or 1N4148M	DIODE	
	R6701	NRSA02J-392X	MG RESISTOR	3.9kΩ,1/10W
	R6702	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
	R6703	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R6704	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R6705	NRSA02J-271X	MG RESISTOR	270Ω,1/10W
	R6707	NQR0200-003X	FERRATE BEADS	
	R6708	NQR0200-003X	FERRATE BEADS	
	R6709	NQR0200-003X	FERRATE BEADS	
	R6710	NQR0200-003X	FERRATE BEADS	
	R6711	NRSA02J-474X	MG RESISTOR	470kΩ,1/10W
	R6712	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R6713	NRSA02J-123X	MG RESISTOR	12kΩ,1/10W
	R6714	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R6715	NRSA02J-123X	MG RESISTOR	12kΩ,1/10W
	R6716	NQR0200-003X	FERRATE BEADS	
	R6719	QRE141J-103Y	RESISTOR	10kΩ,1/4W
	R6720	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
	R6721	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
	C6701	NCB21HK-103X	CAPACITOR	0.01µF,50V
	C6704	NCB21HK-103X	CAPACITOR	0.01µF,50V
	C6707	NDC21HJ-470X	CAPACITOR	47pF,50V
	C6708	NDC21HJ-7R0X	CAPACITOR	7pF,50V
	C6709	NDC21HJ-3R0X	CAPACITOR	3pF,50V
	C6713	NCF21CZ-224X	CAPACITOR	0.22µF,16V
	C6714	NCB21HK-222X	CAPACITOR,A,C,D	0.0022µF,50V
		NCB21HK-682X	CAPACITOR,B,E	0.0068µF,50V
	C6715	QEKJ1HM-225	E CAPACITOR	2.2µF,50V
	C6716	NCB21HK-222X	CAPACITOR,A,C,D	0.0022µF,50V
		NCB21HK-682X	CAPACITOR,B,E	0.0068µF,50V
	C6717	QEKJ1HM-225	E CAPACITOR	2.2µF,50V
	C6719	QEKJ1EM-106	E CAPACITOR	10µF,25V
	C6720	QEKJ1EM-106	E CAPACITOR	10µF,25V
	C6721	NCB21HK-103X	CAPACITOR	0.01µF,50V
	C6723	NCB21HK-103X	CAPACITOR	0.01µF,50V
	C6724	QEKJ1HM-225	E CAPACITOR,B,E	2.2µF,50V
	L6701	QUY153-050Y	IM BUS WIRE	
	X6701	QAX0443-001	CRYSTAL RESONATOR	
	K6701	NRSA02J-330X	MG RESISTOR	33Ω,1/10W
	K6702	NQR0200-003X	FERRATE BEADS	
	K6703	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	K6704	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	K6705	NRSA02J-0R0X	MG RESISTOR,A,C,D	0Ω,1/10W
		NRSA02J-100X	MG RESISTOR,B,E	10Ω,1/10W
	K6706	NRSA02J-470X	MG RESISTOR	47Ω,1/10W
	K6707	NQR0200-003X	FERRATE BEADS,B,E	
	BK1	LP40425-001A	BRACKET(PWB)	
	CN6701	QGG2502K1-10	HEADER PIN	

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MINI FRONT BOARD ASSEMBL <28> [HR-S7955MS]

	PW1	LPA20014-02A	MINI FRONT BOARD ASSY
	S7028	QSW0456-002Z	TACT SWITCH
	S7029	QSW0456-002Z	TACT SWITCH
	CN7002	QGF1208C1-06	FPC CONNECTOR,(1-6)
	CN7005	QGF1208C1-04	FPC CONNECTOR,(1-4)

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S.JACK BOARD ASSEMBLY <36>

	PW1	LPA20009-02B	S JACK BOARD ASSY
	J7102	QND0084-001	S JACK
	CN7108	QGF1209F1-04	FPC CONNECTOR,(1-4)TERMINAL

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ADV.JOG BOARD ASSEMBLY <38>

	PW1	LPA20013-05A	ADV.JOG BOARD ASSY
	UN7001	QSW0905-001	ROTARY ENCODER
	CN7003	QGF1209F1-04	FPC CONNECTOR,(1-4)MAIN

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION

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LOADING MOTOR BOARD ASSEMBLY <55>

		PW2	LPA10158-01A2	LODING MOTOR BOARD ASSY

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S/P CONVERTER BOARD ASSEMBLY <87> [HR-S6955MS/S7955MS]

		PW1	LPA10144-04A	S/P CONVERTER BOARD ASSY
		IC1601	BA7046F-XE	IC
		IC1602	74HC132D	IC(DIGITAL)
		IC1603	74HC4538D	IC
		IC1604	74HC74D	IC
		IC1605	TDA8395	IC
		IC1606	TDA4665T	IC
		IC1607	TDA8501T/N1-X	IC
		Q1601	2SB1218A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
			or 2SA1576A/QR/-X	TRANSISTOR
		Q1604	2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SC4081/QRS/-X	TRANSISTOR
		Q1605	2SB1218A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
			or 2SA1576A/QR/-X	TRANSISTOR
		Q1606	2SC1740S/QRS/-T	TRANSISTOR
		Q1607	2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SC4081/QRS/-X	TRANSISTOR
		Q1608	2SB1218A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
			or 2SA1576A/QR/-X	TRANSISTOR
		Q1609	2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SC4081/QRS/-X	TRANSISTOR
		Q1610	2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SC4081/QRS/-X	TRANSISTOR
		Q1611	2SB1218A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
			or 2SA1576A/QR/-X	TRANSISTOR
		Q1612	2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SC4081/QRS/-X	TRANSISTOR
		Q1613	2SC4083/NP/-X	TRANSISTOR
		Q1614	2SB1218A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
			or 2SA1576A/QR/-X	TRANSISTOR
		Q1615	2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SC4081/QRS/-X	TRANSISTOR
		Q1616	2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SC4081/QRS/-X	TRANSISTOR
		Q1617	2SB1218A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
			or 2SA1576A/QR/-X	TRANSISTOR

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		D1601	1SS133	DIODE	
		R1601	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
		R1608	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R1609	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1610	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1611	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
		R1612	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R1615	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
		R1616	NRSA02J-474X	MG RESISTOR	470kΩ,1/10W
		R1617	NRSA02J-474X	MG RESISTOR	470kΩ,1/10W
		R1618	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R1619	NRSA02J-134X	MG RESISTOR	130kΩ,1/10W
		R1620	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
		R1621	QRE141J-103Y	RESISTOR	10kΩ,1/4W
		R1622	QRE141J-103Y	RESISTOR	10kΩ,1/4W
		R1623	NRSA02J-123X	MG RESISTOR	12kΩ,1/10W
		R1624	NRSA02J-124X	MG RESISTOR	120kΩ,1/10W
		R1631	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
		R1632	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
		R1633	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
		R1635	NRSA02J-122X	MG RESISTOR	1.2kΩ,1/10W
		R1636	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1637	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
		R1638	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R1639	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
		R1640	NRSA02J-122X	MG RESISTOR	1.2kΩ,1/10W
		R1641	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1642	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
		R1643	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R1644	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
		R1645	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R1646	NRSA02J-104X	MG RESISTOR	100kΩ,1/10W
		R1647	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
		R1648	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1651	NRSA02J-123X	MG RESISTOR	12kΩ,1/10W
		R1652	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1653	NRSA02J-184X	MG RESISTOR	180kΩ,1/10W
		R1654	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
		R1655	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1656	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R1657	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
		R1658	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1659	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
		R1660	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
		R1661	NRSA02J-333X	MG RESISTOR	33kΩ,1/10W
		VR1601	QVP0039-471Z	TRIM RESISTOR	
		VR1602	QVP0039-471Z	TRIM RESISTOR	
		VR1603	QVP0039-104Z	TRIM RESISTOR	
		B1601	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B1602	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B1603	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		C1601	QEKJ1CM-476	E CAPACITOR	47μF,16V
		C1602	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C1605	QEKJ1HM-105	E CAPACITOR	1μF,50V
		C1606	NCB21HK-102X	CAPACITOR	0.001μF,50V
		C1607	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C1608	QEKJ0JM-476	E CAPACITOR	47μF,6.3V
		C1609	NCB21HK-222X	CAPACITOR	0.0022μF,50V
		C1610	QEKJ1HM-105	E CAPACITOR	1μF,50V
		C1611	NDC21HJ-101X	CAPACITOR	100pF,50V
		C1612	NCB21EK-104X	CAPACITOR	0.1μF,25V

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		C1613	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C1614	NDC21HJ-471X	CAPACITOR	470pF,50V
		C1615	NDC21HJ-561X	CAPACITOR	560pF,50V
		C1616	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C1631	QEKJ1CM-476	E CAPACITOR	47µF,16V
		C1632	QEKJ1CM-476	E CAPACITOR	47µF,16V
		C1633	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C1634	NDC21HJ-101X	CAPACITOR	100pF,50V
		C1635	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C1636	NCB21CK-224X	CAPACITOR	0.22µF,16V
		C1637	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C1638	QEKJ0JM-476	E CAPACITOR	47µF,6.3V
		C1639	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C1640	QEKJ0JM-476	E CAPACITOR	47µF,6.3V
		C1641	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C1642	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C1643	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C1644	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C1645	QEKJ1HM-105	E CAPACITOR	1µF,50V
		C1646	QEKJ1HM-105	E CAPACITOR	1µF,50V
		C1647	NCB21CK-224X	CAPACITOR	0.22µF,16V
		C1648	QEKJ0JM-476	E CAPACITOR	47µF,6.3V
		C1649	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C1650	NCB21CK-224X	CAPACITOR	0.22µF,16V
		C1651	NCB21EK-223X	CAPACITOR	0.022µF,25V
		C1652	NDC21HJ-120X	CAPACITOR	12pF,50V
		C1653	NCB21CK-224X	CAPACITOR	0.22µF,16V
		C1654	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C1655	QEKJ0JM-476	E CAPACITOR	47µF,6.3V
		C1656	NCB21HK-103X	CAPACITOR	0.01µF,50V
		L1601	QQL29BJ-100Z	COIL	10µH
		L1602	QQL29BJ-100Z	COIL	10µH
		L1603	QQL29BJ-100Z	COIL	10µH
		L1604	QQL29BJ-100Z	COIL	10µH
		X1601	QAX0613-001Z	CRYSTAL RESONATOR	
		BK1	LP30950-001A	BRACKET 1	
		BK2	LP30951-001A	BRACKET(2)	
		FL1601	QQR1187-001	EQUALIZER	
		FL1602	QQR1187-001	EQUALIZER	
		CN1601	QGF1208F1-11	FPC CONNECTOR,(1-11)TERMINAL	

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION